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OPTIMIZING CAPITAL STRUCTURE THROUGH DEBT TO EQUITY BALANCING: A STUDY OF SELECTED ZIMBABWE STOCK EXCHANGE LISTED COMPANIES

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ABSTRACT

The firm's capital structure as denoted by the debt to equity ratio or the financial debt to equity ratio is dependent on the weighted average cost of capital according to the traditional theory of capital structure. This study was conducted to investigate empirically, the determinants of capital structure for Zimbabwe Stock Exchange listed companies. The study also sought to establish if listed companies in the Zimbabwe Stock Exchange maintain a target debt to equity ratio as a measure of capital structure optimization. Data was collected through a questionnaire and also through the analysis of the financial statements of the selected listed companies. The findings from the survey confirmed that the cost of capital is a determinant of capital structure as denoted by debt to equity ratio. That is, capital structure depends on the weighted average cost of capital (WACC). The high WACC is associated with high debt to equity ratios and the cost of capital is a predominant consideration for making capital structure decisions in the Zimbabwe Stock Exchange listed companies. In addition, the analysis of the financial statements of the selected Zimbabwean listed companies revealed the evidence that companies with debt generally perform better than the all equity financed companies, the earnings per share (EPS) and Share Prices are generally higher. The majority of managers in the Zimbabwe Stock Exchange listed companies maintains a target debt to equity ratio and rebalances their capital structure to move towards their target whilst very few of managers have a no target policy at all. Few managers maintain a strict target and most managers maintain a target range and a considerable number of managers consider a flexible target as important.

KEYWORDS

WACC, debt to equity ratio, capital structure, EPS, Share Price, risk, wealth maximization, ZSE.

INTRODUCTION

Capital structure optimization decisions taken by agents (managers) on behalf of the principals (shareholders) as reflected by each company's debt to equity ratio are a critical strategy reflection towards shareholder value growth or wealth maximization realization. Financial management literature suggest that managers strive to satisfy shareholders by focusing on those actions that will result in the maximization of the wealth of the shareholders by growing the value of the companies they are managing on behalf of those shareholders. As a result, there is generally a relationship between shareholder value growth and the business strategies employed by management.

The growth and development of a company depend crucially on that company's access to sources of financial capital. Zimbabwe's capital markets revolve around the Zimbabwe Stock Exchange (ZSE), with a market capitalization of about USD 6.371 billion. The Zimbabwe Stock Exchange (ZSE) was established in 1896, initially to provide a forum through which mining companies could raise equity financing to fund operations. Although the ZSE was originally established to cater for the mining industry, today, the majority of listed companies are non-mining. The exchange was regulated by the Zimbabwe Stock Exchange Act 1974, 1996 (Chapter 24:18) but was replaced by the Securities Act in 2008. The first stock exchange was established in Bulawayo in 1896. The exchange in Harare started operating in 1951.

NEED FOR THE STUDY

Having in mind all the limitations of financing faced by Zimbabwean firms, it is the duty of financial managers to establish an adequate finance policy, taking the predominant theoretical knowledge in consideration, and search for the sources that fit best the financial needs of the company and the concern of stockholders to have their wealth maximized. Research has been executed to identify the determinants of capital structure, nonetheless, the concerns of most capital structure studies are in developed countries and there are few studies that offer evidence from developing countries such as Zimbabwe. The capital market conditions, the legal frame work, the caliber of management and the general industry practices are bound to influence the determination of capital structure choice in a significant way for Zimbabwean firms. Initial Public Offers and other new equity issues on the Zimbabwe Stock Exchange have been limited ever since the introduction of the multi-currency regime in 2009 owing to the liquidity state of the economy. The different sources of finance all have different financial risks; the financial risks have to be combined with the business risk which determines the cost of capital. The differences of capital combinations and their risk components, cost components all lead to the optimal capital structure which minimizes the cost and risk of capital used to finance the corporate firm. One factor of great influence is availability of funds in the capital markets, the Zimbabwe's industry is still undercapitalized characterised by a lack of finance for long term projects and new machinery.

STATEMENT OF THE PROBLEM

The Zimbabwean economy has been characterised by an undercapitalised industry and high borrowing costs ever since the adoption of the multi-currency regime. There are companies in Zimbabwe with too much debt and the general default rate of business loans is significant while the cost of capital is relatively high, lowering the value of the companies in the process. These conditions in a developing economy are different to the emerging economies and the developed economies in factors such as sources of capital and their cost, in particular the overall cost of capital. Some other analysis of Zimbabwean companies' capital structure has applied Western capital structure theories without closely examining the relevance or irrelevance of these theories when applied to the Zimbabwean institutional context. Therefore, this study sought to investigate the optimizing capital structure strategies employed by listed companies in the Zimbabwe Stock Exchange, from a developing economy context.

OBJECTIVES OF THE STUDY

1. To investigate empirically, the determinants of capital structure for Zimbabwe Stock Exchange listed companies, on the basis of the theoretical framework, particularly the impact of cost of capital (WACC) on debt to equity ratios.
2. To analyse and investigate the importance of capital structure in adding value to the wealth of shareholders.
3. To establish if listed companies in the Zimbabwe Stock Exchange maintain a target debt to equity ratio as a measure of capital structure optimization.

METHODOLOGY

Primary data was collected using a questionnaire which evaluated the opinions of 30 top managers of the 10 selected listed companies, and 10 company secretaries over a set of factors that are likely to influence their decision making on the capital structure policies. Secondary data was also collected from the published financial statements of these selected listed companies.

LITERATURE REVIEW

The Traditional Theory of Optimal Capital Structure: There are many methods for the firm to raise its required funds. But the most basic and important instruments are equity or debt. The firm's mix of different securities is known as its capital structure. The capital structure can be discussed under the traditional or modern theory. Traditional theory assumes that an optimal capital structure does exist and depends on the level of gearing. The company cannot maximize wealth unless the optimal weighted average cost of capital (WACC) is achieved. Because debt has a lower after tax cost than equity, as it is moderately increased, the WACC falls. The moderate increase in debt does not increase the overall risk of the firm and therefore the firm does not have to offer a higher return to shareholders to compensate for the increased risk, as debt capital is further increased, the WACC will continue to fall up to a certain point. After thus optimal level is reached, any further increase in debt capital will increase the risk of the firm and shareholders will demand a higher yield. Shen (2008) states that the choice of capital structure of a firm could be influenced by the relative costs of debt and equity, and therefore the value of a firm could be affected by the net balance of relative costs of debt and equity in the chosen structure of capital. The impact of capital structure on the value of a firm depends on a net balance between the benefit of debt financing (cost reduction) and the increased cost of equity (risk reduction).

The result of the hypothetical analysis is that there may be an optimal capital structure where the value of a firm can be maximized, or the cost of capital minimized by adjusting the ratios of debt to equity. Atrill (2009) suggests that according to the traditional theory, capital structure decision making is very important. The traditional theory points out that the cost of loan capital (debt) is cheaper than the cost of ordinary shares (equity) and increasing levels of borrowing will decrease the overall cost of capital of the business. Cohen (2005) adds that the traditional view or theory at its simplest, proposes that a firm's leverage (as measured by its debt/equity ratio) is significant in determining its cost of capital, and in consequence will affect the value of the firm. Thus, if we begin with a firm entirely financed by equity, as it acquires increasingly more debt it will find its cost of capital diminish up to a point, after which it will increase. This means that there will be a debt/equity ratio which gives the lowest WACC, at which point the value of the firm will be maximized for a given stream of cash flows. The rationale for this U-shaped WACC curve is quite straightforward: because the cost of debt is typically lower than the cost of equity, increasing leverage will initially act to lower the weighted average cost of capital. However, further increases in debt will raise the cost of capital due to increasing risk: both (potential) external providers of funds and current shareholders will seek for higher return on their funds to compensate them for the increased risk of additional debt.

Cost of Capital Approach: Cost of capital is critical to the long-term success of the firm and maintenance of the market value for its stock. This is the rate of return a given project must earn. Because a firm tries to maintain a target capital structure, which is the desired optimal mix of debt and equity financing, it should use the weighted average cost to decide on investments. This section specifically focuses on the long-term fixed-asset investments, because they are more permanent. There are four basic sources of long-term funds that businesses use: long-term debt, preferred stock, common stock, and retained earnings. It is predominantly the cost of capital that influences capital structure. Damodaran (2001) asserts that by altering the weights of the different components of capital firms might be able to change their overall cost of capital, that is, either through increasing debt or equity. The cost of capital approach therefore suggests the estimation of the costs of capital and looking for the mix of debt and equity that yields the lowest cost of capital for the firm. At this cost of capital, Damodaran (2001) argues that the value of the firm is maximized. The cost of capital consists of the cost of debt and cost of equity. Lewellen (2006) asserts that the cost differential between internal and external equity suggests that profitable firms with internal cash should have less leverage than firms that use external finance (holding all else constant).

If firms lever up until the costs of financial distress outweigh the tax advantages of debt, firms with more internal equity will choose lower leverage: a dollar of debt substituted for retained earnings yields fewer tax savings than a dollar of debt substituted for external equity. According to Cohen (2005) the specific cost of each source of capital is the after-tax cost of getting financing today. The author goes on to emphasize that the cost of each source of capital reflects the risk of the assets the firm invests in. A firm that invests in assets having little risk in producing income will be able to bear lower costs of capital than a firm that invests in assets having a higher risk of producing income. Moreover, the cost of each source of funds reflects the hierarchy of the risk associated with its seniority over the other sources. For a given firm, the cost of funds raised through debt is less than the cost of funds from preferred stock which, in turn, is less than the cost of funds from common stock. Cost of debt: Kretlow (2001) defines cost of debt as the rate of return required by the firms' creditors. For a debt issue or loan capital this rate of return often denoted by (Kd) and is equated to the interest. Van Horne (2002) refers to explicit cost of debt which is interest on debt as a factor to consider in capital structure. Therefore, companies consider the interest rate on bank loan, debenture interests, and dividends on preferred stock before issuing debt.

- **Cost of Debt:** According to Cohen (2005) at its simplest, the cost of debt is the cost incurred by the firm when it acquires funds through borrowing. Brealey and Meyers (2001) state that there are actually two costs of debt finance. The explicit cost of debt is the rate of interest that bondholders demand. But there is also an implicit cost, because borrowing increases the required return to equity.
- **Cost of Preferred Stock:** Cohen (2005) known as preferred stock in the United States, preference shares are valued in much the same way as debt. The major differences between preference shares and debt in the UK are: debt is subject to a tax-shield effect, as it is effectively tax deductible; dividends on preference shares are not tax deductible, the interest payments on debt are a legal obligation to be met by the company, whereas dividends on preference shares are paid at the discretion of the Board of Directors. In reality, the dividend on UK preference shares is often at a fixed rate, but because dividends are paid out of profits (as with ordinary shares) payment is dependent on company profitability.
- **Cost of equity or Common Stock:** Kretlow (2001) cost of equity capital to the firm is the equilibrium rate of return required by the firm's stock investors. Equity can be raised internally through retained earnings or externally through sell of new common stock. Cost of equity can be estimated using the dividend valuation model approach.

SCOPE OF THE STUDY

The scope of the study is limited to 10 selected Zimbabwe Stock Exchange listed companies. These companies were randomly selected.

ANALYSIS OF THE STUDY

TABLE 1: SECONDARY DATA FROM PUBLISHED FINANCIAL STATEMENTS

Company	Debt	Equity	Debt/Equity Ratio	Basic EPS
CAPS Holdings	25 674 712	61 159 390	41.98%	--0.63
Delta	22 811 000	211 617 000	10.78%	4.50
Hwange	23 808 559	58 795 919	40.49%	7.03
AICO	33 467 000	116 552 000	28.71%	1.68
CBZ	48 513 752	99 256 929	48.88%	5.18
Cairns group	2 618 849	9 199 779	28.47%	0.01
Seedco	12 554 695	70 014 675	17.93%	9.05
Zimplow	600 550	11 286 811	5.32%	0.19
Interfresh	3 738 719	12 384 489	30.19%	0.008
Zimre	797 882	39 248 983	2.03%	0.26
ZPI	1 248 813	72 198 838	1.73%	0.16

From table 1 above the capital structure approach is evident as debt is used to some level and beyond a certain level the weighted average cost of capital according to literature (Gitman, 2005) will start to rise as noticed in the published financial statements of CAPS Holdings (included for comparisons purposes only) which had a debt/equity ratio of 41.98%, and performed badly because of huge interest payments obligation. Hwange and CBZ had debt/equity ratios of 40.49% and 48.88%

respectively and performed extremely well compared to CAPS the reason for this performance is the industry differences and characteristics between the pharmaceutical industry, the mining industry and the banking industry. The evidence agrees with Gitman (2005) who states that the level of debt, that is, (financial leverage) that is acceptable for one industry or line of business can be highly risky in another because different industries and lines of business have different operating characteristics. A debt/equity ratio of 41.98% for CAPS is on the high side but for CBZ 48.88% and Hwange’s 40.49% seem to be in the optimal range side.

TABLE 2: WACC CALCULATED AT BOOK VALUES

Company	EPS	Share Price	Ke %	Kd %	Equity	Debt	Weight of Equity	Weight of Debt	WACC %
Delta	4.5	74.92	6.00	11.00	211,617,000.00	22,811,000.00	5.42	2.140708	7.56
Hwange	0.32	45	0.07	10.00	58,795,919.00	23,808,559.00	0.05	6.340919	6.39
AICO	1.68	20	8.00	12.00	116,552,000.00	33,467,000.00	6.22	4.907872	11.12
CBZ	2.18	12	18.00	11.00	99,256,929.00	48,513,752.00	12.09	7.222695	19.31
Cairns group	0.01	1.2	1.00	11.00	9,199,779.00	2,618,849.00	0.78	4.874904	5.65
Seedco	9.05	110	8.00	10.00	70,014,675.00	12,554,695.00	6.78	3.345106	10.13
Zimplot	0.19	7	3.00	10.00	11,286,811.00	600,550.00	2.85	1.111441	3.96
Interfresh	0.01	0.48	2.00	12.00	12,384,489.00	3,738,719.00	1.54	5.101455	6.64
Zimre	0.16	1.3	12.00	12.00	72,198,838.00	1,248,813.00	11.80	0.374061	12.17
ZPI	0.26	1.45	18.00	11.00	39,248,983.00	797,882.00	17.64	0.438322	18.08

The findings from the book value WACC show that the cost of capital figures are relatively lower compared to in the table3 below, which was based on survey results. The reason for this could be the historical nature of book values, the shortcomings of the earnings method used which ignores risk and economic variables.

TABLE 3: WACC DERIVED FROM SURVEY DATA

Company	Cost of Equity	Cost of Debt	Weight of Equity	Weight of Debt	WACC	Debt/Equity Ratio
Delta	0.13	0.16	0.714285714	0.285714286	0.138571	0.40
Hwange	0.25	0.35	0.833333333	0.166666667	0.266667	0.20
AICO	0.42	0.38	0.724637681	0.275362319	0.408986	0.38
CBZ	0.12	0.24	0.833333333	0.166666667	0.140000	0.20
Cairns group	0.37	0.31	0.700000000	0.300000000	0.580000	0.43
Seedco	0.39	0.20	0.900909091	0.099099099	0.019820	0.11
Zimplot	0.25	0.26	0.943396226	0.056603774	0.250566	0.06
Interfresh	0.15	0.10	0.869565217	0.130434783	0.013043	0.15
Zimre	0.26	0.13	0.943260000	0.056740000	0.252623	0.06
ZPI	0.17	0.12	0.878763000	0.121237000	0.163938	0.14

The weight of debt was deduced as follows, if debt/equity ratio is 40% then weight of debt is 40/(100+40)= 0.2857 and weight of equity is 100/(100+40)=0.7143. The results of the survey showed that debt/equity ratios range from 6% to 43%. The results show that debt does not exceed equity in magnitude mainly because of risk, highly geared firms are more risky compared to all equity financed firms or lowly geared firms. Debt is cheaper than equity but this does not ensure that a company can be all debt financed as this increases bankruptcy costs and potential for financial distress.

TABLE 4: DESCRIPTIVE STATISTICS

	Mean	Std. Deviation	N
WACC	.2272	.19418	10
Capital Structure	.2411	.14210	10

The mean for Zimbabwean listed companies surveyed in the study for WACC is 0.2272 with a standard deviation of 0.19418 implying that capital structure should be 0.2272+/- 0.19418 that is ranging between 0.03302--0.42138 which agrees with observations from published financial statements, whilst the capital structure (debt/equity ratio) has a mean of 0.2411 and a standard deviation of 0.14210, implying that debt/equity should be 0.2411+/- 0.14210, that is ranging between 0.09900--0.3832.

TABLE 5: CORRELATIONS

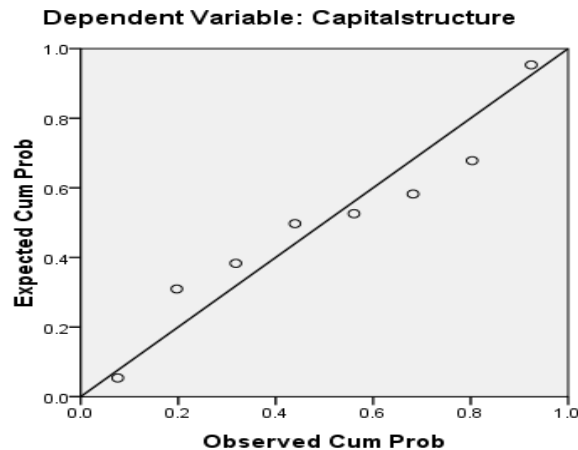
		WACC	Capital Structure
WACC	Pearson Correlation	1	.630*
	Sig. (1-tailed)		.047
	N	10	10
Capital Structure	Pearson Correlation	.630*	1
	Sig. (1-tailed)	.047	
	N	10	10

*. Correlation is significant at the 0.05 level (1-tailed).

The correlations results are significant at the 95% confidence level; capital structure is dependent on the WACC with a Pearson correlation of 0.630. The evidence from the survey confirms that the cost of capital is a determinant of capital structure (debt/equity ratio).

FIGURE 1: REGRESSION ANALYSIS GRAPH

Normal P-P Plot of Regression Standardized Residual



In the figure 1 above the observed and cumulated probabilities of WACC and capital structure (debt/equity) depended variable shows that the relationship is a linear, high WACC is associated with high debt/equity ratio, the capital structure. The WACC is the independent variable and the debt/equity (capital structure) is the dependent variable, given the WACC the debt/equity ratio (capital structure) can be predicted. Therefore, the financial manager has to determine the target WACC and ascertain the proportion of debt and the proportion of equity required.

FINDINGS AND SUGGESTIONS

The above findings suggest that the determinants of capital structure of the Zimbabwe listed companies are mainly the cost of capital, the weighted average cost of capital (WACC) is used in target capital structure policy setting and analysis should start from the book value WACC, whereas the weighted average cost of capital formula calls for market values when setting target capital structure.

Suggestion 1: Capital structure as denoted by the debt/equity ratio or the financial debt to equity ratio (FD/CP ratio) is dependent on the WACC. The evidence from the survey confirms that the cost of capital is a determinant of capital structure (debt/equity). Capital structure (debt/equity ratio) depends on the WACC. The high WACC is associated with high debt/equity ratios and the cost of capital is a predominant consideration for making capital structure decisions in the Zimbabwe Stock Exchange listed companies.

Suggestion 2: The capital structure decision is very important. In general, the analysis of the financial statements of the selected Zimbabwean listed companies revealed the evidence that companies with debt generally perform better than the all equity financed companies, the earnings per share (EPS) and Share Prices are generally higher.

Suggestion 3: The majority of managers in the Zimbabwe Stock Exchange listed companies maintain a target debt to equity ratio and rebalance their capital structure to move towards their target whilst very few of managers have a no target policy at all. Few managers maintain a strict target and most managers maintain a target range and a considerable number of managers consider a flexible target as important.

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MAIZE CULTIVATION IN KARNATAKA & GROWERS' AWARENESS ON PRICE RISK MANAGEMENT TOOLS.

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ABSTRACT

"Is Maize a potential crop for/to farmers of Karnataka?" Maize a versatile crop having wider adaptability under different agro-climatic conditions is globally known as queen of cereals with its usage. Maize with its highest yield potential is one of the principal cereal crops in India, contributes to the economic growth with substantial employment and significant contributions to export earnings. In India, Maize is the third most important food crop with nearly 9% stake in the national food basket. In addition to being staple food for humans and quality feed for animals, maize serves as a basic ingredient to thousands of industrial products. Maize is cultivated throughout the year in all the states of India & predominantly in Andhra Pradesh (20.9%), Karnataka (16.5%), Rajasthan (9.9%), Maharashtra (9.1%), and Bihar (8.9%) contributing to more than 80% of the national maize production. In southern states of India, farmers are substituting maize for rice wherever there is a drop in the water level, as maize is considered as a viable option for diversifying agricultural production owing to its adaptability in multiple seasons under different ecologies. Karnataka stands in first position in Maize productivity and is cultivated in all the seasons in most of the districts. Though Karnataka is considered to be one among top five growing states in agricultural sector, it is characterized by lack of reliable and timely information with a dearth of analysis on various vital aspects related to crop marketing, prices, trends at major national and international markets, demand and supply pattern, scientific forecasting, crop and weather information. Despite the initiatives from different segments including government of Karnataka, unfavorable deviation in market prices of maize are leading to reduced income to farmers and traders. It is known from studies that risks faced by Maize growers are forcing them to re-think on alternative commercial crops in the absence of awareness on effective risk management measures and tools like derivative instruments. This research paper is an attempt to study the marketing patterns of maize, awareness of price risk mitigating tools among maize growers in Karnataka state. Research work done through structured questionnaire served in vernacular language to maize growers in 3 selected high maize yielding districts of Karnataka state, tries to answer the questions like what are the constraints in maize marketing?, Are there tools available to mitigate the risks? What are the initiatives of the Government of Karnataka to increase the maize growers' financial returns? and so on.

KEYWORDS

Maize derivatives, NCDEX, pledge loans, warehouse receipts.

INTRODUCTION

Maize, the queen of cereals with its wider adaptability to varied agro-climatic conditions, its efficient utilization of radiant energy and fixation of CO₂ from the atmosphere, is considered as one of the major high yielding crops of the world. It is providing approximately 30% of the food calories to more than 4.5 billion people along with rice and wheat and addressing some of the food security issues of the developing nations. Maize is cultivated among 160 countries having wider diversity of soil fertility covering nearly 178.61 Mha of cultivatable land with 1007.47 million mt of production during 2014-15. It covers nearly 36% of the global grain production and gained popularity across the globe due to its considerable utility in many sectors in different forms, majorly as feed source for animals. It serves as a basic ingredient to thousands of industrial products that include starch, oil, protein, alcoholic beverages, food sweeteners, pharmaceutical, cosmetic, film, textile, gum, package and paper industries etc. It is estimated that nearly one-fourth of the stock keeping units in a modern grocery store contain maize in one form or the other. These range from toothpaste, detergent, paper, dyes, soaps to artificial sweeteners, fructose, etc. Maize also finds application in food containers, plastic food packaging, baby powder, diapers, medicine, vitamin tablets, textile products, candies and so on. Maize rich breakfast cereals, snacks, popcorn and cooking oils have also become popular. Internationally, maize has been processed to produce bio-ethanol in a big way for blending with auto fuels.

Low cost of cultivation, easy adaptability to various climatic conditions, increasing productivity, more cultivars, minor fluctuation in prices compared to other cereals and finally high potential for export demand from all over the world are catching the attention of agriculture sector in India. The United States of America (USA) produces 35% of world's maize. It occupies the first position in Maize production followed by China and Brazil. India stands at fifth position with annual production of around 23.67 million tonnes from 9.3 million hectares contributing 2.35% of world production in 2014-15. India has a competitive advantage in supplying produce to the world markets since it has a dual crop season. Maize's Kharif production share is about 75% and Rabi's share is about 25% in India. Around 52% of the total demand is from poultry feed in India and the remaining 48% is from human consumption and the processing sector. India requires 325 million tons of food grain by 2020 AD to satisfy needs of its population, which demands consistent increase in production and productivity of agricultural crops. Agriculture sector growth from 2.9 percent to 3.6 percent per year during 2005 to 2015 is insufficient and need to depend on increasing maize cultivation among all the states. During the last three decades, Maize production in India has remarkably increased, driven by the demand from the animal feed industry. Maize is grown in traditional areas under rainfed condition to meet household requirements and in non-traditional areas with more favorable production environment for commercial purpose. Maize is cultivated throughout the year in India owing to production in both kharif and rabi seasons. Maize is cultivated in almost 524 districts out of total 686 districts of India covering all the states predominantly in Andhra Pradesh, Karnataka, Rajasthan, Maharashtra & Bihar. It has witnessed 56 per cent growth in 10 years compared with 20 per cent for rice and 32 per cent for wheat. The growth has been supported by an absence of government control widely seen in wheat and rice. The agriculture price support policy of the central government is also designed to boost Maize production by announcing minimum support price of Rs 1,310 per quintal in 2013-14 and 2014-15. The crop has been included in the government's ambitious Rs. 500 crores crop diversification strategy announced for North Indian states of Punjab, Haryana and western Uttar Pradesh. In Southern states of India, farmers are substituting maize for rice wherever there is a drop in the water level as Maize is considered as a viable option owing to its adaptability in different ecologies. Estimated demand of over 30 million tonnes of Maize from poultry sector by 2020, changing food consumption patterns due to urbanization, increase in consumption of processed food that uses maize, India being 3rd largest egg producer and 5th largest poultry meat producer which mainly depends on maize usage as feed, rising demand for poultry and fish which uses corn as feed are creating heavy demand for Maize cultivation. Return on Maize to the farmers depends on domestic and international demand and supply factors like Government interventions through the minimum support prices, demand from local millers, global inventory level and current production

numbers. Quality specifications like the moisture content, the grains quantity in 100 grams, problems from fungus, downy mildew, powder thyrum are some of other factors influencing the return to farmers. Generally, the price hint in the market is taken from NCDEX futures prices and from spot markets like Nizamabad (Telangana), Davanagere (Karnataka), and Gulabghat (Bihar).

Karnataka the prominent player of Maize cultivation produced 3.84 million tonnes of Maize from 1.37 million hectares in the year 2014-15. Karnataka, an agricultural dependent state, is characterized by wide crop diversification, reliant on southwest monsoon. In Karnataka, Maize Scenario is with 40% area under irrigation and 60% area is of rainfed. There is an increasing trend in the area, production and productivity of Maize in Karnataka state over the years with Compound Annual Growth Rate (CAGR) of 8.5 per cent in last three decades. During the last ten years, the area under Maize in Karnataka has increased by 41 per cent. Uttarkannada, Shimoga, Raichur, Hassan and Chikmagalur districts have considerable production of Maize crop in the state. Davanagere is the major Maize producing district in Karnataka accounting for 25 per cent of the state production and is estimated at 800,000 tonnes. Major markets of Maize in Karnataka are Davanagere, Haveri, Belgaum and Bagalkot. The sowing period of Maize in Karnataka starts from end of May and harvesting starts in the middle of October.

AGRICULTURAL MARKETING IN INDIA

Marketing of agricultural produce which involves moving agricultural product from the farm to the consumer, has not gained as much importance as the agricultural production in India unlike developed countries. Generally, in the developing countries, the agricultural marketing services will be attached to their respective agricultural ministries which help in development of market information, infrastructure development, marketing extension and training in marketing. Agricultural ministries with its supportive policies, legal, institutional, macro-economic, infrastructural environment focuses on agribusiness. Indian farmers face the problem with disposal of their produce and this problem is gaining equal importance as the modern production technology adoption. Stable prices will induce the cultivators to expand production and increase their marketed surplus. If the sustained breakthrough in agricultural sector has to be achieved, the farmers are to be relieved of the risks and uncertainties involved in agricultural production and marketing. Maize producers in India are no exemption to the risk facing from the cash crop producers. In Indian Maize production, few major problems have been identified which are to be addressed in order to have the advantage of high productivity and adaptability to all climates. The price fluctuation in the post-harvest period due to heavy arrivals in the market with advent of high yielding varieties, increased production resulting distress sale after harvest, lack of market information regarding prevailing prices, arrivals etc., unavailability of grading of Maize at producers' level, inadequate storage facilities in villages which contributes to distress sale, inadequate facilities of transportation at village level leading to forced selling in the village itself to merchants or traders directly at low prices, inadequate training in marketing system, malpractices prevailing in the markets of maize i.e., excess weightage, delay in payment, different kinds of arbitrary deductions for religious and charitable purposes etc, lack of market finance are few of the major marketing problems faced by the maize growers.

Information Dissemination is crucial to the farmers to make informed decisions about what to grow, when to harvest, to which market produce should be sent. It helps to estimate the demand for the product and in decision making on storing the product in warehouses till demand arises. Most of the farmers do not have accessibility to roads to reach the regulated markets, as infrastructural development in villages of India is still a continuous process in many states. Regulated markets and warehouse facilities are generally at city levels and moving the produced to markets itself is big problem with either bad roads or no roads.

PRODUCTS USED IN THE MANAGEMENT OF PRICE RISK

Derivative products have the ability to shift the price risk from producers. Maize futures are standardized, exchange-traded contracts in which the contract buyer, generally intermediary or a consumer agrees to take delivery from the seller, the producer, a specific quantity of Maize at a predetermined price on a future delivery date. Maize producers can employ a short hedge to lock in a selling price for the Maize they produce, while businesses that require maize can utilize a long hedge to secure a purchase price for the commodity they need. The prices of futures contracts are determined by free competition amongst market participants.

REVIEW OF LITERATURE

1. K. Singha and A. Chakravorty (2013) in their article, '**Crop diversification in India: A study of Maize cultivation in Karnataka**', mentioned about growing need of agricultural production has been really felt with the growth of population, not only for the sake of food security but also for providing employment. Crop diversification within the sector has also been noticed to a great extent of which, the growth of production of Maize has registered at the highest with CAGR at 8.5 per cent in the last three decades. Using one way ___ Least Squares Dummy Variable (LSDV) for twenty-seven districts over twelve years, present study explored that the introduction of new hybrid seed (HYV) is one of the most important factors for significant growth of Maize crop in the state.
2. In the article, '**The Role of Derivatives in The Commodity Market**', Soumya Mukesh, discussed the history of commodity derivative market in India. Author said that investing directly in the agricultural products and commodities gives the investor a share in the commodity components of the country's production and consumption. Money managers and average investors, however, usually prefer commodity derivatives rather than commodity themselves. The average investor does not want to store grains, cattle, crude oil, or metals. A common investment objective is to purchase indirectly those real assets that should provide a good hedge against inflation risk.
3. In the article '**Problems and Prospects of Agricultural Marketing in India: An Overview**', authors A. Vadivelu and B.R. Kiran mentioned about the agri marketing and facilities available to farmers to sell the produced. They pointed out that marketing of all farm **products generally tends** to be a complex process. They felt that suitable marketing system should be designed so as to give proper reward or return to the efforts of the tiller of the soil. In the article, they focused on importance of market information as a means of increasing the efficiency of marketing system and promoting improved price formation. In the authors' perspective, it is crucial to the farmers to make informed decisions about what to grow, when to harvest, to which market produce should be sent and whether or not to store it. Authors felt the need of creating awareness among the farmers through the agricultural extension agencies like the State Department of Agriculture, Krishi Vigyan Kendras.
4. In the article '**Value Chain Analysis of Maize Seed Delivery System in Public and Private Sectors in Bihar**', authors Ranjit Kumara, Khurshid Alama, Vijesh V. Krishnab & K. Srinivasa (2012) have stated that Bihar has emerged as one of the most promising states for Maize production in India, where it is cultivated in all the three seasons. This offers an opportunity for strengthening maize supply chain from seed to end-use. Different systems of maize seed delivery co-exist in the state. This study has been conducted in the Samastipur district (the largest maize growing district) of Bihar in 2010-11 and is based on surveys of seed producers, farmers, seed distributors, private seed companies and public research institutions as to understand the delivery system of maize seed in a value chain perspective. The study has mapped the value chain of public and private seed systems and has brought out the need for a greater emphasis on integration of different stakeholders involved in the chain.
5. **Km. Saroj Gupta. (2012)**, in her article '**Sustainability of scientific maize cultivation practices in Uttar Pradesh, India**', (2012) talked about the Sustainability of scientific maize cultivation practices must be ensured to attain the goal of agricultural sustainability. The study was conducted in purposively selected state i.e. Uttar Pradesh. A total sample size of 80 maize farmer respondents and 20 SMS/Experts were selected by using multi-stage random sampling technique and simple random selection procedure respectively. The study revealed that higher sustainability in all practices is significant.
6. B. R. Kumara, S. B. Hosamani, N. R. Mame Desai, S. N. Megeri and M. H. Hosamani (2012) in their research article, '**Costs and returns of major cropping systems in northern transition zone of Karnataka**', mentioned about their research study which was conducted in Dharwad and Belgaum Districts of Karnataka. A sample size of 160 farmers were selected using multiple stage random sampling method. Field level data were elicited for the agricultural year 2009-10 through personal interview method. For analyzing the data collected, tabular analysis was employed. Maize + redgram, Sorghum+ redgram, Greengram + redgram and Soybean were the major cropping systems identified. Returns per rupee of expenditure was found to be the highest in cropping system II (Sorghum+ redgram)

7. Amrutha C.P (2009), in her doctoral thesis, 'Market Information System and its Application for Agricultural Commodities in Karnataka State – A Case of Onion', opined that market information is an important facilitating function in the agricultural marketing system. It facilitates marketing decisions, regulates the competitive market process and simplifies marketing mechanisms. Market information is a means of increasing the efficiency of marketing system and promoting improved price formation. It is crucial to the farmers to make informed decisions about what to grow, when to harvest, to which market produce should be sent and whether or not to store it. Improved information should enable traders to move produce profitably from a surplus to a deficit market and to make decisions about the viability of carrying out storage where technically possible. She has quoted through her research that, at present, the information is disseminated through various media like radio, newspapers, blackboard display and public address system at market yards. The information provided by these methods is stale and does not help the farmers sufficiently in taking decisions in marketing their produce.
8. G. Basappa, J.B Deshmanya and B. L. Patil (2007) in their research work 'Post- Harvest Losses of Maize Crop in Karnataka - an Economic Analysis', stated that improper post-harvest handling has led to considerable loss in Maize. The present study was conducted during 2003-2004 in Karnataka for estimating post-harvest loss in maize at different stages at farm level. It is selected based on maximum area under maize crop that is grown largely in Davanagere and Belgaum. The post-harvest loss at farm level was estimated to be 3.02 kg per quintal. The share of harvesting loss was at maximum. There is a need for an integrated effort to increase the productivity by evolving high yielding varieties of hybrids in maize. The improvement in storage facilities required immediate attention of the policy makers for reducing post-harvest loss in maize.

NEED FOR THE STUDY

Despite Maize called as the queen of cereals with its productivity and adoptability to all climates and soils and huge demand across the world, growers/farmers are facing problems in production and marketing of Maize produced. Lack of market information regarding prevailing prices, increased arrivals in the markets due to introduction of high yielding varieties of maize, lack of storage facilities, lack of training in marketing system, malpractices prevailing in the markets of maize like excess weightment, delay in payment, auction, growers' aggressive production practices often lead to change in crop returns and profitability. In spite of measures taken by Government of Karnataka at state level and GOI at national level, returns are less to Maize farming community. This study tries to explore awareness of options available for Maize growers to cash their labour and production in Maize.

OBJECTIVES OF THE STUDY

1. To know about Maize and its growth in India in general, and Karnataka state in specific.
2. To understand the Agri marketing system prevailed in the Karnataka with reference to maize.
3. To understand the awareness of risk tools and provisions available for Maize growers

RESEARCH METHODOLOGY

Research methodology adopted in this paper is partly based on conceptual study & partly based on descriptive study. Study deals with the problems faced by Maize growers of Karnataka in marketing the produced, the initiatives of Government of Karnataka relevant to maize and maize growers. The objective of the paper is to know about the awareness of farmers on price risk management tools. Paper parallelly focuses on creating awareness among the readers about potentiality of maize production, the risk management tools and provisions available to hedge the risks faced by farmers. Data was collected from both the primary sources through structured questionnaires and secondary sources of websites, journals and other publishing. 150 Maize farmers from districts of Davanagere, Chitradurga & Bellary districts were served the questionnaires in order to collect the data about the various marketing related aspects of maize. Farmers are selected on random basis with convenient sampling covering almost all the parts of 3 districts.

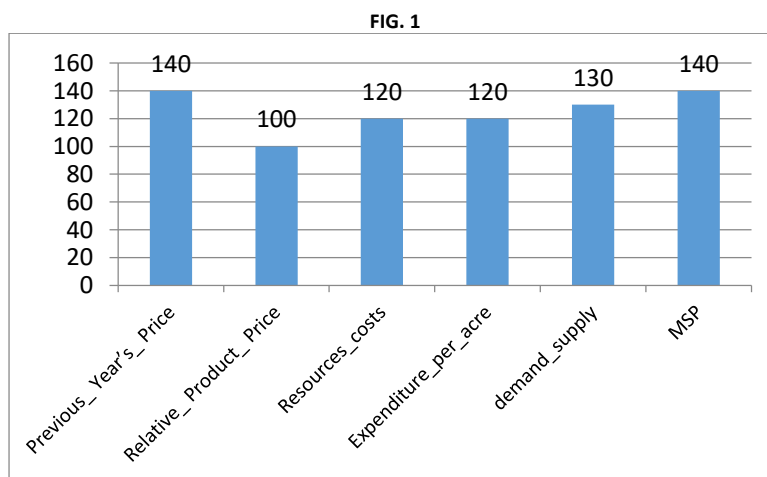
ANALYSIS AND FINDINGS

Though farmers/growers do not participate directly in commodity markets, they benefit through the price signals emitted by the futures markets and information dissemination done by different stakeholders through different methods. The primary benefit of the commodity derivatives is price discovery mechanism through futures market. Demand in national exchanges and international exchanges through futures prices enable the farmers to take right and informed decisions on storage options of maize. Information makes them to understand the trends in prices and demand makes them to retain the product and realize better prices and returns. Regular dissemination of price information by Forward Markets Commission with the help of national commodity exchanges has made the farmers to track the markets and demand and is making better usage of information in negotiating the prices. Price dissemination happening in all states through display boards on regular basis in all major villages provides a good reference to assess spot prices and bringing farmers and traders at a platform with correct price negotiations and it also created awareness on mechanism of locking-in the desired prices.

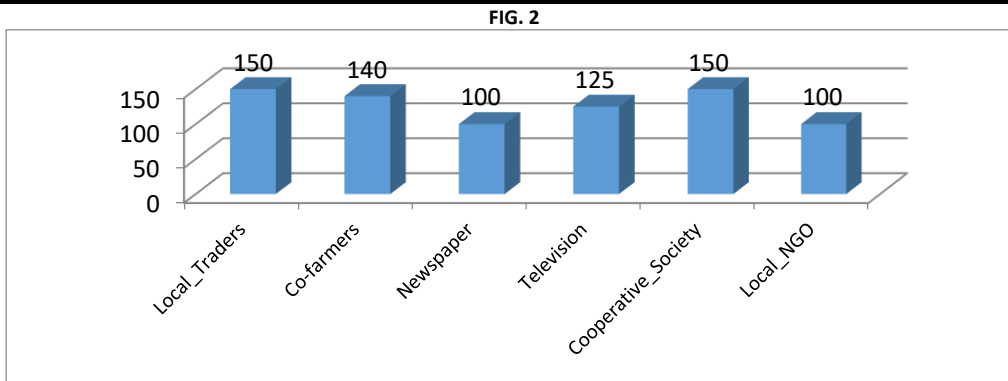
In connection to the study, the questionnaire carries questions on primary risks faced by maize farmers, maize pricing factors, maize selling centres, awareness on MSPs provided by Government of Karnataka, information on price dissemination project of central government, awareness on price risk management tools like commodity futures, mechanism of futures for fixing the prices and so on.

Analysis of data collected through questionnaire served to 150 farmers led to the following information:

1. Among maize pricing factors, previous year price, relative product price, resources cost, expenditure per acre, demand and supply, MSP have occupied almost equal percentage in the opinion of farmers. MSP and previous year price as leading factors.

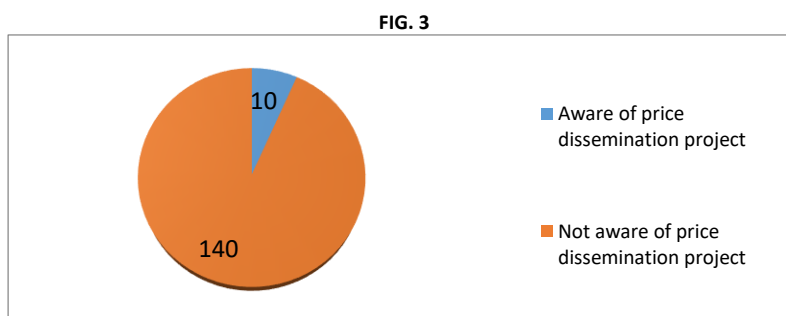


2. Related to price information sources to farmers, respondents came out with choosing local traders, co-operative societies, and APMCs as major information sources with equal weightage. Other sources such as co-farmers, newspaper, radio, television, agricultural extension staff, kirana stores and agri-magazines have good share in communicating the market value of maize to farmers.



3. When asked about the awareness of price dependency on grading and moisture content of 14% limit, 100% farmers accepted on it and also quoted other factors like limit of grains number in 100 grams and so on.

4. Nearly 140 out of 150 farmers said that they are not aware of the information dissemination project taken by the Government of India and the methods followed by them in disseminating the prices of the commodities, training provided by the NCDEX as a partner to the government, APMC role and other things.

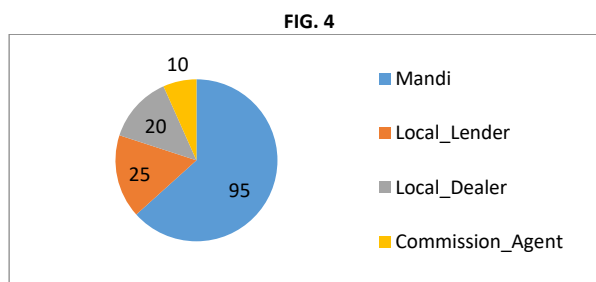


5. Few of the respondents are aware of price information dissemination through APMC ticker boards method, but all have given their negative opinion on display as ticker boards are presently not there in Davanagere, Chitradurga and Bellary market yards. But farmers are able to get the price information from staff of APMCs. When farmers are attached with APMC market yards by registering their mobile number in APMC office, and cooperative societies, farmers are able to get prices in vernacular message in the form of messages to their registered mobiles.

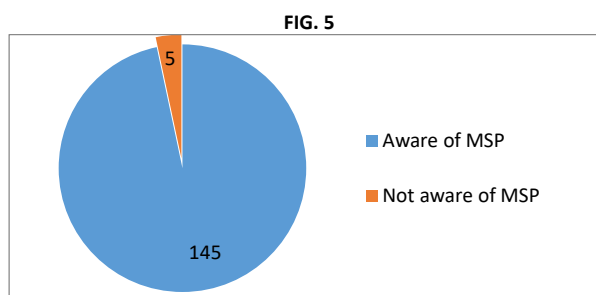
TABLE 1

Prices displayed on APMC ticker boards		Prices displayed in native language	
Yes	No	Yes	No
0	150	0	150

6. When tried to collect the information about where the crop is sold, majority(2/3rd) of farmers told that they bring their crop to the yards and sell as now transparency is there in buying and selling though brokerage charges are there. Nearly 55 farmers are selling to the local lenders and commission agents with whom farmers are in oral contract to deliver, and from whom loans and seeds are taken. Though procurement centres are there from government end, quality specifications of FCI and other matters related to payment are leading farmers to not to sell.



7. Awareness on minimum support prices announced by the Government of Karnataka is not impacting farmers' returns, though the awareness is there in almost all farmers. The price what farmers get majorly depends on quality aspects and decision of traders supported by demand factors, the MSP is not much sought aspect by farmers. Except 2 to 3 times, almost in all the years, farmers are able to realize the above MSP prices.

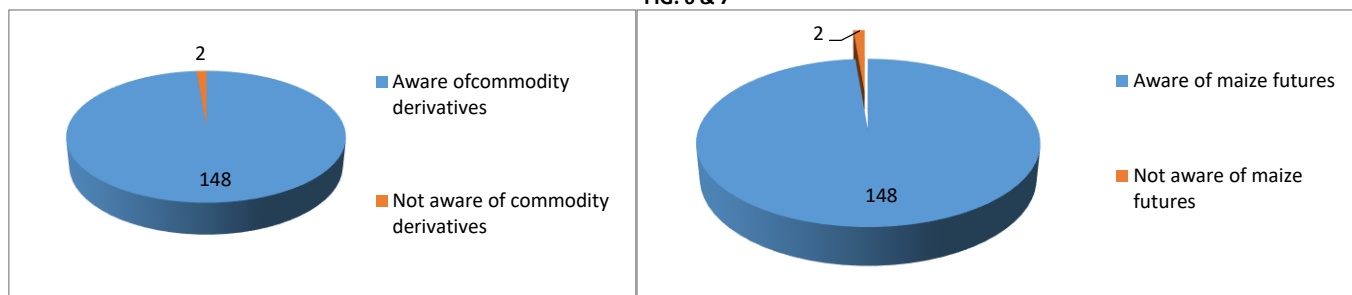


8. Concerned to the price risk farmers are facing, they are not in a position to safeguard themselves from the price fluctuations due to prevailing demand and supply factors. Selling of crop is happening under distress and urgent need of cash or reaching the target price. No farmer is aware of price fixation that can happen much before the harvesting of the crop.

9. When asked about the collective storage facility provided by APMC yards, farmers said they are aware of them but not utilizing them. They keep the material under the custody of their yard registered brokers and sell based on the price in the market. Most of them dispose when crop is brought to yards with prevailing prices and very few take them back as farmers fear of charges of storage and non-availability of sufficient godowns and they do not use the collective storage facility.

10. When asked about the awareness of price management tools like commodity futures (maize farmers), except 2 from Davanagere district who are considered to be wealthy farmers, remaining all said they are not aware of the futures and commodity markets. The farmers who are aware also named them as government contracts and not aware of commodity markets as such.

FIG. 6 & 7



Concerned to other price risk management tools and facilities, farmers are almost with zero information at their end.

FINDINGS

From the data collected through secondary sources, it is evident that there is an increasing trend in the area, production and productivity of maize in Karnataka and has consistent demand for maize from Karnataka Milk Federation (KMF), poultry industry and many other industrial sectors. As a part of support to farmers, Government of Karnataka has taken many initiatives in all stages right from soil checking to marketing of the final produce. Providing minimum support prices to crops, integrating markets & market participants, procuring the crop from farmers are among the support measures taken by the government.

Few major initiatives that support maize farmers along with other growers are:

- 'Bhoochetana', project was initiated in the year 2009-10, to increase the average productivity of rainfed crops by 20%.
- 'BhooSamruddhi' was a project initiated to rejuvenate soil fertility and water management. It is now in its third phase, which helped the farmers to gain huge returns as crop selection was based on the soil suitability and fertility. 'Bhoochetana' & 'BhooSamruddhi' adoption has reaped huge returns and has caught the other states attention.
- 'Krishi Bhagya' is a project for saving rain water. It is a method wherein seepage proof water harvesting structures and micro-irrigation is promoted on package basis. 80% of investment on the implementation is borne by government and farmer has to take care of remaining 20% only.
- 'Krishi Mela' one more prominent initiative from Government of Karnataka is meant for disseminating information on the scope of post harvest technology, seed processing, soil and water conservation practices, organic farming, green house technology and farm machinery. Melas also disseminate the information about availability of technical, financial and other supports offered under various Government schemes. They train the farming community on judicious usage of natural resources like water and soil.
- As a part of agri-marketing initiatives and reforms, Government of Karnataka has established a joint venture company 'Rashtriya e-Market Services Limited (ReMS)', partnering with NCDEX Spot Exchange Limited. The ReMS integrates the operations of APMCs in Karnataka under one system with complete technology and management solution. This system helps all the yards to modernize the infrastructure which enables the market participants to take the benefit of transparent and efficient price information across all the areas including international arenas. This Unified Market Platform under ReMS has connected 51 major market yards by January 2015 and is expected to cover 155 main market yards, 354 sub-yards and will be extended to cover authorized warehouses associated with the APMC markets.
- Minimum Support Price (MSP) is provided to almost all major crops including Maize The support price to maize has grown almost 250% over a decade span from 2005 to 2015. The following table gives the supporting prices offered to maize farmers:

TABLE 2

Year	MSP	Year	MSP
2004-05	Rs. 525	2010-11	Rs. 880
2005-06	Rs. 525	2011-12	Rs. 980
2006-07	Rs. 540	2012-13	Rs. 1175
2007-08	Rs. 620	2013-14	Rs. 1310
2008-09	Rs. 840	2014-15	Rs. 1310
2009-10	Rs. 840		

- Procurement of maize from farmers was done by Karnataka Food and Civil Supplies Corporation Limited and Karnataka State Cooperative Marketing Federation Ltd. with the help of FCI. Despite the acute shortage space to store the procured maize, expenditure incurring from transportation and handling, heavy losses in disposal, Government of Karnataka has procured maize from farmers at minimum support prices of Rs.1310/- in 2013-14 and at 1100/- in 2014-15.
- To encourage maize cropping, seeds are provided to farmers at a subsidy of about 50%.
- Promoting Contract Farming.
- Promoting collective storage methods by providing free storage facilities in APMC warehouses and meager charges of Rs 5.25/Q/month in state warehouses.

Above all, Government of Karnataka is focusing on infrastructure development, online payments to clear the procurement bills, increasing storage facilities through construction of godowns and cold storages. Online sales and tender system in procurement centres and mandis is taking place to avoid middle men in between buyers and consumers.

CONCLUSION

India is one of the largest producers of maize with number of varieties cultivated in almost all states of India in both Kharif and Rabi seasons. Owing to cultivation in different states in different seasons, demand from the industry is met easily throughout the year. The growing demand from different sectors, government policies in supporting maize production to meet the food grain shortage and international demand generated through usage of maize in bio-fuels are helping farmers to sell their produced without any hurdles. Procurement with MSPs and other initiatives from Karnataka Government are keeping the farmers in the safer zone of good returns. Despite all the favourable situations, farmers who are cultivating maize are subjected to different risks associated with production and marketing of maize. Though very recently Karnataka maize farmers have seen good returns in 2013-14 & 2014-15, they have suffered a long time with different risks in the form of selecting seed to selling the harvest to traders. Problems related to quantity and quality issues bother the farmers much at the time of selling the harvest. Due to unavailability of formal markets at reachable places to sell crop, expenditure in transporting to nearest yards, insufficient storage facilities, warehouses at distant places are some of the marketing risks faced by maize growers. Interest on unorganized loans, compelled agreements with agents and local

merchants/lenders are forcing growers to deliver the produced at cheaper prices which realizes half of the returns of/to what they are supposed to in this/these globalised competitive markets.

Indian government has paved way to commodity derivatives trading in agricultural products in order to help the farmers to hedge their risks. Under the earlier Forwards Markets Commission and National Commodity Exchanges, Indian Government is disseminating demand and price information through display boards in villages and APMC mandis. The information on the boards & derivative futures prices signal the farmer to choose the crop to cultivate, when and where to store, price at which farmer can dispose, and market (spot/futures) where he can sell. Derivatives help maize farmers to reach the international demand and price information which are reference values to pre-decide on producing and marketing the crop. Both GOI and Government of Karnataka are providing minimum support price to maize in order to bailout the farmers who are at mercy of agents and intermediaries whenever there is low demand. Through price and information dissemination, better warehousing, pledge loans, e-trading, e-tendering and grading facilities, farmers have been able to realize higher incomes. The efforts of Government of India and Government of Karnataka in supporting the farmers through infrastructural development and technology development, bringing transparency in the system of trading are partially successful as the information dissemination is not happening as per the expectations of the governments.

Through the data collected, I can conclude that the aim of central government to reach all the farmers in specific and other stake holders of commodity derivative markets in general through information dissemination methods has not taken place. Still most of the farming community is not aware of any information sources on prices and price risk mitigating tools. Almost all the respondents (nearly 100%) of the study do not know about the derivative markets and derivative instruments like maize futures. Unless information dissemination is at good phase and farmers trained on usage of derivative instruments to curb the risk, neither farmers will have efficient returns nor Governments' initiatives will be at positive end.

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A STUDY OF LEAD LAGS RELATIONSHIP BETWEEN NSE EQUITY MARKET AND SINGLE STOCK FUTURES**DR. SANDHYA SRIDEVI MARIPINI****PROFESSOR****DEPARTMENT OF COMMERCE & MANAGEMENT STUDIES****ANDHRA UNIVERSITY****VISAKHAPATNAM****SATYANARAYANA KOILADA****ASST. PROFESSOR****DEPARTMENT OF MANAGEMENT STUDIES****DADI INSTITUTE OF ENGINEERING & TECHNOLOGY****ANAKAPALLE****ABSTRACT**

The relationship between the NSE equity and equity derivative markets well documented. Many studies concluded that future contracts have better price predicting power than spot market and identified future prices lead spot prices. This study aimed to identify the lead-lag relationship between equity spot and future market and to assess the role of stock futures market in price discovery process at NSE FO segment. High frequency one-minute data of spot and futures prices for 80 stocks collected for the period of four years i.e. from January 2012 to September 2015. The selected stocks pooled from 11 industries which are also present in SENSEX and NIFTY indices representing almost 70% of market capitalisation. A Bi-variate VAR model is deployed in order to identify causal relation between the markets and found bi-directional causality. An impulse response function deployed in order to assess the speed of price adjustment between the market and found the prices in both markets adjust together very quickly within the time frame of 3 minutes. Variance decomposition analysis resulted in depicting spot market strength in price discovery over the futures market.

KEYWORDS

Bi-variate VAR, impulse response function, lead-lag relationship, NSE single stock futures, variance Decomposition.

INTRODUCTION

Since derivative products are facilitating trading on stocks at lower cost and margin requirements with ease of leverage positions comparing to spot market, it is hypothesised that informational traders would prefer to trade in derivative products. If so the dissemination of any information regarding the securities would impact upon the derivative prices first and derivative products would lead the spot market prices. In contrary to this argument some advised that the speculators at spot market are more attracted towards derivative products since they are cheaper products for magnifying the return on investments and it would cause FO market to be more volatile resulting prices deviate from their intrinsic values. This in turn would compel the informed traders to prefer spot market and price discovery takes place in spot which would lead the derivative prices.

The lead lag relationship between two market prices would reveal the facts about superiority of one over another market in price formation and trader's preference towards markets. In connection with this study for identifying the lead lag relationship between spot and FO market prices is important as identifying the lead time or lag time between spot and future prices of stocks would be used as the benchmark performance for the stock futures at NSE.

This study is aimed at identifying how quickly the two market prices are adjusted together and the understanding the accuracy of the markets in price discovery mechanism. Specifically, this is attempted to study the superiority of markets in price formation and seek to identify the causal relationship of spot and FO markets at NSE.

LITERATURE REVIEW

Many researchers contributed for the development of NSE FO market. A pioneer work done by Kawaller, Koch and Koch (1987) in identifying the lead lag relationship between spot and futures market at S&P 500 and found futures lead spot prices by 20 to 30 minutes while spot leads futures by lesser than in two minutes. Kumar and Tse (2009) used order book data and found spot market plays significant role in price formation in the market. Shastri et al. (2008) studied the role of single stock futures at NYSE and found their contribution in price discovery process is limited to 24%. Chan (1992) studied index futures at MMI and found significant domination of future market in leading the spot market. Raju and Karande (2003) deployed VECM model on intraday prices to identify the causality between nifty indices and found bi-directional relationship. Mukherjee and Mishra (2006) also followed similar methodology in identifying the causality between NSE nifty futures and concluded bi-directional relationship.

RESEARCH METHODOLOGY

High frequency one minute intraday data is used for testing the lead-lag relationship between the spot and futures market. Stock prices for sampled set of 10 stock futures along their corresponding spot prices for the period of four years ranging from 2012 to 2015 obtained for the study. The data is pooled from all stocks for conducting panel data analysis since the study is expected to test the causality between the markets but not the stock specific lead-lag relationship. The selected data is log transformed and then first differenced in order to make them representing stock returns. Thus we obtained two series of data DLOGSPOTPRICE and DLOGFUTUREPRICE representing returns for pooled stocks from spot and futures markets respectively.

In order to identify the lead-lag relationship between stock spot and future returns we deploy a bivariate VAR model. Since it is the precondition to check for data stationarity to proceed further to test VAR we deployed ADF-fisher test of unit root for testing panel data stationarity. The following table 1.1 presents the results from ADF fisher unit root test on both stock spot and future returns at level data.

TABLE 1.1: ADF UNIT ROOT TEST

Null Hypothesis: Unit root (individual unit root process)			Null Hypothesis: Unit root (individual unit root process)						
Series: DLOGFUTUREPRICE			Series: DLOGSPOTPRICE						
Sample: 2/02/2012 09:07 7/13/2015 16:37			Sample: 2/02/2012 09:07 7/13/2015 16:37						
Total number of observations: 1513334			Total number of observations: 2792840						
Cross-sections included: 10			Cross-sections included: 10						
Method	Statistic	Prob.**	Method	Statistic	Prob.**				
ADF - Fisher Chi-square	184.207	0.0000	ADF - Fisher Chi-square	184.207	0.0000				
ADF - Choi Z-stat	-11.7606	0.0000	ADF - Choi Z-stat	-11.7606	0.0000				
Intermediate ADF test results DLOGFUTUREPRICE			Intermediate ADF test results DLOGSPOTPRICE						
Cross			Cross						
section	Prob.	Lag	Max Lag	Obs					
DLF	0.0001	4	4	298543	DLF	0.0001	4	4	317506
GAIL	0.0001	4	4	116414	GAIL	0.0001	4	4	309388
IDBI	0.0001	4	4	143778	IDBI	0.0001	4	4	309534
JUBLFOOD	0.0001	4	4	100940	JUBLFOOD	0.0001	4	4	283075
MM	0.0001	4	4	238032	MM	0.0001	4	4	314264
MRF	0.0001	4	4	8404	MRF	0.0001	4	4	179781
OFSS	0.0001	4	4	13014	OFSS	0.0001	4	4	144442
ORIENTBANK	0.0001	4	4	138462	ORIENTBANK	0.0001	4	4	300039
RCOM	0.0001	4	4	280858	RCOM	0.0001	4	4	317558
UNITECH	0.0001	4	4	174889	UNITECH	0.0001	4	4	317253

The above table exhibits that the P values of ADF fisher for spot and future price series are less than 0.05 suggest to reject the null hypothesis of unit root existence in both the data series at 5% significance level. That explains both series of data has no unit roots and thus they are identified stationary which permits the study to proceed further to test causality under VAR environment.

To identify the precise VAR model for spot and future prices it is needed to identify optimum lag length to construct the model. For this purpose, we considered the following system suggested lag lengths under different methods of lag-length criteria and chosen Schwarz criterion (SC) of lag structure which is conservative and reliable in modelling VAR.

TABLE 1.2: LAG LENGTH CRITERIA UNDER VAR

VAR Lag Order Selection Criteria						
Endogenous variables: DLOGSPOTPRICE DLOGFUTUREPRICE						
Exogenous variables: C						
Sample: 2/02/2012 09:07 7/13/2015 16:37						
Included observations: 629832						
Lag	LogL	LR	FPE	AIC	SC	HQ
0	6556523.	NA	3.11e-12	-20.8199	-20.81987	-20.81989
1	6629574.	146102.2	2.47e-12	-21.05186	-21.05175	-21.05183
.
.
34	6687931.	88.95975	2.05e-12	-21.23675	-21.23427	-21.23606
35	6687983.	102.4489	2.05e-12	-21.2369	-21.23434*	-21.23619
36	6687989.	11.92949	2.05e-12	-21.23691	-21.23428	-21.23617
.
.
44	6688121.	77.77834	2.05e-12	-21.23723	-21.23402	-21.23633*
.
.
49	6688165.	29.05739	2.05e-12	-21.23731	-21.23374	-21.2363
50	6688173.	16.39529*	2.05e-12*	-21.23732*	-21.23368	-21.2363
* indicates lag order selected by the criterion						
LR: sequential modified LR test statistic (each test at 5% level)						
FPE: Final prediction error						
AIC: Akaike information criterion						
SC: Schwarz information criterion						
HQ: Hannan-Quinn information criterion						

The above table 1.2 exhibits that the Schwarz criterion (SC) for lag structure suggests that a lag structure of 35 would best fit the VAR model for selected spot and future price series. Thus we constructed VAR model using a lag length of 35 lags for spot and future price series and obtained the following VAR equations.

VAR EQUATIONS

$$DLOGSPOTPRICE = C(1)*DLOGSPOTPRICE(-1) + C(2)*DLOGSPOTPRICE(-2) ++ C(70)*DLOGFUTUREPRICE(-35) + C(71) \quad \text{Equation 1}$$

$$DLOGFUTUREPRICE = C(72)*DLOGSPOTPRICE(-1) + C(73)*DLOGSPOTPRICE(-2) ++ C(141)*DLOGFUTUREPRICE(-35) + C(142) \quad \text{Equation 2}$$

Equation 1 would reveal the empirical evidence for assessing whether future stock prices lead spot prices at NSE or not. Since we deal with the pooled data comprising of 10 selective security prices, we use panel least square method to regress the VAR system specified equations. The following table 1.3 presents the result from regression equation 1 for identifying causality from future prices to spot prices.

TABLE 1.3: ESTIMATION OF EQUATION 1 USING PANEL LEAST SQUARES

Dependent Variable: DLOGSPOTPRICE									
Method: Panel Least Squares									
Sample (adjusted): 2/02/2012 09:51 7/13/2015 15:30									
Periods included: 270929									
Cross-sections included: 10									
Total panel (unbalanced) observations: 784301									
	Coefficient	Std. Error	t-Statistic	Prob		Coefficient	Std. Error	t-Statistic	Prob.
C(1)	-0.298	0.002	-155.072	0.000	C(36)	0.265	0.002	144.026	0.000
C(2)	-0.214	0.002	-91.169	0.000	C(37)	0.207	0.002	91.303	0.000
C(3)	-0.184	0.003	-71.106	0.000	C(38)	0.170	0.002	68.004	0.000
C(4)	-0.146	0.003	-53.217	0.000	C(39)	0.140	0.003	53.085	0.000
C(5)	-0.121	0.003	-42.464	0.000	C(40)	0.119	0.003	43.236	0.000
C(6)	-0.103	0.003	-35.345	0.000	C(41)	0.101	0.003	36.027	0.000
C(7)	-0.100	0.003	-33.708	0.000	C(42)	0.097	0.003	33.886	0.000
C(8)	-0.096	0.003	-31.554	0.000	C(43)	0.090	0.003	30.912	0.000
C(9)	-0.088	0.003	-28.605	0.000	C(44)	0.082	0.003	27.875	0.000
C(10)	-0.070	0.003	-22.683	0.000	C(45)	0.071	0.003	23.660	0.000
C(11)	-0.062	0.003	-19.888	0.000	C(46)	0.068	0.003	22.498	0.000
C(12)	-0.061	0.003	-19.374	0.000	C(47)	0.064	0.003	21.121	0.000
C(13)	-0.050	0.003	-15.824	0.000	C(48)	0.052	0.003	17.017	0.000
C(14)	-0.043	0.003	-13.434	0.000	C(49)	0.044	0.003	14.462	0.000
C(15)	-0.037	0.003	-11.425	0.000	C(50)	0.041	0.003	13.129	0.000
C(16)	-0.034	0.003	-10.475	0.000	C(51)	0.033	0.003	10.527	0.000
C(17)	-0.027	0.003	-8.259	0.000	C(52)	0.031	0.003	9.897	0.000
C(18)	-0.034	0.003	-10.405	0.000	C(53)	0.030	0.003	9.473	0.000
C(19)	-0.029	0.003	-8.808	0.000	C(54)	0.027	0.003	8.675	0.000
C(20)	-0.025	0.003	-7.686	0.000	C(55)	0.023	0.003	7.435	0.000
C(21)	-0.023	0.003	-7.044	0.000	C(56)	0.023	0.003	7.446	0.000
C(22)	-0.028	0.003	-8.614	0.000	C(57)	0.022	0.003	6.870	0.000
C(23)	-0.024	0.003	-7.527	0.000	C(58)	0.029	0.003	9.350	0.000
C(24)	-0.017	0.003	-5.389	0.000	C(59)	0.024	0.003	7.789	0.000
C(25)	-0.015	0.003	-4.720	0.000	C(60)	0.018	0.003	5.769	0.000
C(26)	-0.006	0.003	-1.984	0.047	C(61)	0.006	0.003	1.935	0.053
C(27)	-0.007	0.003	-2.205	0.027	C(62)	0.010	0.003	3.311	0.001
C(28)	-0.008	0.003	-2.554	0.011	C(63)	0.012	0.003	3.943	0.000
C(29)	0.005	0.003	1.555	0.120	C(64)	0.000	0.003	0.048	0.962
C(30)	0.027	0.003	8.736	0.000	C(65)	-0.021	0.003	-7.107	0.000
C(31)	0.027	0.003	8.978	0.000	C(66)	-0.019	0.003	-6.780	0.000
C(32)	0.020	0.003	6.972	0.000	C(67)	-0.020	0.003	-7.269	0.000
C(33)	0.023	0.003	8.611	0.000	C(68)	-0.022	0.003	-8.466	0.000
C(34)	0.019	0.002	7.818	0.000	C(69)	-0.016	0.002	-7.061	0.000
C(35)	0.011	0.002	5.506	0.000	C(70)	-0.009	0.002	-4.663	0.000
					C(71)	0.000	0.000	-4.620	0.000
R-squared			0.031964		Mean dependent var			-6.18E-06	
Adjusted R-squared			0.031878		S.D. dependent var			0.001581	
S.E. of regression			0.001556		Akaike info criterion			-10.0937	
Sum squared resid			1.897917		Schwarz criterion			-10.0927	
Log likelihood			3958334		Hannan-Quinn criter.			-10.0934	
F-statistic			369.9278		Durbin-Watson stat			1.998859	
Prob(F-statistic)			0						

The above table represents the coefficients of lag values of both spot and future market up to 35 lags for each market returns regressed on spot returns. The corresponding P values are found statistically significant at 95% confidence levels. We use WALD test to test whether all lag values of future returns together significant in explaining the spot market returns. The following table 1.4 exhibits the results from WALD test for joint effect of lag values of future returns on spot market returns.

TABLE 1.4: WALD TEST 1 FOR EQUATION 1

Wald Test:									
Test Statistic	Value	df	Probability						
F-statistic	610.2414	(35, 784230)	0.0000						
Chi-square	21358.45	35	0.0000						
Null Hypothesis: C(36)=C(37)=C(38)=C(39)=C(40)=C(41)= C(42)= C(43)= C(44)=C(45)=C(46)= C(47)= C(48)=C(49)= C(50)= C(51)= C(52)= C(53)=C(54)= C(55)=C(56)=C(57)=C(58)=C(59)=C(60)=C(61)=C(62) = C(63)= C(64)=C(65)=C(66)= C(67)= C(68)=C(69)= C(70)= 0									
Normalized Re- striction (= 0)	Value	Std. Err.	Normalized Restriction (= 0)	Value	Std. Err.	Normalized Re- striction (= 0)	Value	Std. Err.	
C(36)	0.264627	0.001837	C(47)	0.064119	0.003036	C(59)	0.024316	0.003122	
C(37)	0.206578	0.002263	C(48)	0.052007	0.003056	C(60)	0.017943	0.003110	
C(38)	0.169682	0.002495	C(49)	0.044465	0.003075	C(61)	0.005987	0.003094	
C(39)	0.140312	0.002643	C(50)	0.040594	0.003092	C(62)	0.010167	0.003071	
C(40)	0.118596	0.002743	C(51)	0.032705	0.003107	C(63)	0.011979	0.003038	
C(41)	0.101407	0.002815	C(52)	0.030863	0.003118	C(64)	0.000144	0.002994	
C(42)	0.097316	0.002872	C(53)	0.029616	0.003126	C(65)	-0.02	0.002935	
C(43)	0.090156	0.002917	C(54)	0.027174	0.003132	C(66)	-0.02	0.002858	
C(44)	0.082315	0.002953	C(55)	0.023305	0.003134	C(67)	-0.02	0.002746	
C(45)	0.070603	0.002984	C(56)	0.023344	0.003135	C(68)	-0.02	0.002577	
C(46)	0.067769	0.003012	C(57)	0.021526	0.003133	C(69)	-0.02	0.002308	
			C(58)	0.029261	0.003130	C(70)	-0.01	0.001833	

Restrictions are linear in coefficients.

The above table exhibits that the P value for F statistic calculated under WALD test is '0' indicating the strong rejection of null hypothesis at 5% significance level. This interprets the lag values of future market returns jointly affects the spot market returns. From this test we conclude that there is empirical evidence that stock future prices leads spot market prices.

We regress the equation 2 estimated under VAR to assess the causality from spot market to futures market. The following table 1.5 presents the test output from regression equation 2 estimated using panel ordinary least squares.

TABLE 1.5: ESTIMATION OF EQUATION 2 USING PANEL LEAST SQUARES

Dependent Variable: DLOGFUTUREPRICE Method: Panel Least Squares Sample (adjusted): 2/02/2012 09:51 7/13/2015 15:29 Periods included: 269967 Cross-sections included: 10 Total panel (unbalanced) observations: 775288									
	Coefficient	Std. Error	t-Statistic	Prob		Coefficient	Std. Error	t-Statistic	Prob
C(72)	0.451688	0.002032	222.3384	0	C(107)	-0.459185	0.001947	-235.7834	0
C(73)	0.373652	0.002488	150.1553	0	C(108)	-0.363482	0.002395	-151.7685	0
C(74)	0.293043	0.002744	106.7826	0	C(109)	-0.289868	0.002642	-109.7289	0
C(75)	0.247493	0.002902	85.29613	0	C(110)	-0.238477	0.002794	-85.36414	0
C(76)	0.206913	0.003009	68.76827	0	C(111)	-0.201375	0.002896	-69.52809	0
C(77)	0.18366	0.003086	59.51706	0	C(112)	-0.178464	0.002972	-60.05351	0
C(78)	0.152723	0.003146	48.5433	0	C(113)	-0.148425	0.003031	-48.96114	0
C(79)	0.128108	0.003193	40.12169	0	C(114)	-0.128453	0.003077	-41.7476	0
C(80)	0.114782	0.003231	35.52593	0	C(115)	-0.113882	0.003114	-36.5703	0
C(81)	0.109796	0.003265	33.62962	0	C(116)	-0.105488	0.003147	-33.5152	0
C(82)	0.101398	0.003294	30.78661	0	C(117)	-0.092807	0.003176	-29.22184	0
C(83)	0.083898	0.003318	25.28489	0	C(118)	-0.079225	0.003201	-24.75332	0
C(84)	0.080407	0.003341	24.06601	0	C(119)	-0.077352	0.003222	-24.00464	0
C(85)	0.072813	0.003364	21.64642	0	C(120)	-0.070317	0.003243	-21.68218	0
C(86)	0.067927	0.003384	20.07568	0	C(121)	-0.062363	0.003261	-19.12446	0
C(87)	0.059342	0.0034	17.45571	0	C(122)	-0.05938	0.003275	-18.12937	0
C(88)	0.059724	0.003412	17.50405	0	C(123)	-0.053643	0.003287	-16.31842	0
C(89)	0.036454	0.003422	10.6538	0	C(124)	-0.041659	0.003296	-12.63776	0
C(90)	0.036413	0.003427	10.62559	0	C(125)	-0.037249	0.003302	-11.28134	0
C(91)	0.04223	0.003429	12.31374	0	C(126)	-0.042006	0.003304	-12.71395	0
C(92)	0.037893	0.003432	11.04213	0	C(127)	-0.036172	0.003305	-10.94603	0
C(93)	0.030563	0.00343	8.910374	0	C(128)	-0.036048	0.003303	-10.91302	0
C(94)	0.027986	0.003426	8.169586	0	C(129)	-0.023874	0.003299	-7.236119	0
C(95)	0.032927	0.003417	9.636702	0	C(130)	-0.024561	0.003291	-7.461999	0
C(96)	0.031866	0.003404	9.362328	0	C(131)	-0.030761	0.003278	-9.382657	0
C(97)	0.033143	0.003385	9.789907	0	C(132)	-0.033685	0.003261	-10.32936	0
C(98)	0.030472	0.00336	9.068838	0	C(133)	-0.025661	0.003237	-7.927658	0
C(99)	0.022992	0.003325	6.913983	0	C(134)	-0.017359	0.003203	-5.419878	0
C(100)	0.037647	0.003278	11.48308	0	C(135)	-0.032207	0.003156	-10.20571	0
C(101)	0.050297	0.00322	15.62112	0	C(136)	-0.044251	0.003096	-14.29119	0
C(102)	0.047853	0.003138	15.25153	0	C(137)	-0.042184	0.003016	-13.98679	0
C(103)	0.035278	0.003018	11.68939	0	C(138)	-0.037146	0.002897	-12.82283	0
C(104)	0.034915	0.002838	12.30128	0	C(139)	-0.034143	0.002719	-12.55806	0
C(105)	0.031018	0.002555	12.14097	0	C(140)	-0.029279	0.002435	-12.02307	0
C(106)	0.01746	0.002051	8.514542	0	C(141)	-0.016566	0.001934	-8.564801	0
					C(142)	-9.69E-07	1.85E-06	-0.523571	0.6006
R-squared			0.071		Mean dependent var			-3.84E-06	
Adjusted R-squared			0.071		S.D. dependent var			0.00169	
S.E. of regression			0.002		Akaike info criterion			-10.0021	
Sum squared resid			2.056		Schwarz criterion			-10.001	
Log likelihood			4E+06		Hannan-Quinn criter.			-10.0018	
F-statistic			849.5		Durbin-Watson stat			1.9942	
Prob(F-statistic)			0						

Above results from regression analysis exhibits coefficients of lag values for stock and future returns and their corresponding P values. They are found almost zero for all regression coefficients estimated which means all independent variables are significant in explaining the stock future returns. To identify the causality from spot market to futures market we use the following WALD test to assess the joint effect of lag values of spot prices on future price. The following table 1.6 exhibits the results from WALD test for joint effect past values of spot prices on present future price to confirm the causality from spot market to futures market.

TABLE 1.6: WALD TEST 2 FOR EQUATION 2

Wald Test:											
Test Statistic	Value	df	Probability								
F-statistic	1468.959	(35, 775217)	0.0000								
Chi-square	51413.57	35	0.0000								
Null Hypothesis: C(72)= C(73)=C(74)= C(75)=C(76)=C(77)=C(78)=C(79)=C(80)=C(81)=C(82)= C(83)= C(84)=C(85)=C(86)= C(87)= C(88)=C(89)= C(90)= C(91)= C(92)= C(93)=C(94)= C(95)=C(96)=C(97)=C(98)=C(99)=C(100)=C(101)=C(102)= C(103)= C(104)=C(105)= c(106)=0											
Normalized striction (= 0)	Re- Value	Std. Err.	Normalized striction (= 0)	Re- Value	Std. Err.	Normalized striction (= 0)	Re- Value	Std. Err.	Normalized striction (= 0)	Re- Value	Std. Err.
C(72)	0.451688	0.002032	C(83)	0.083898	0.003318	C(95)	0.032927	0.003417			
C(73)	0.373652	0.002488	C(84)	0.080407	0.003341	C(96)	0.031866	0.003404			
C(74)	0.293043	0.002744	C(85)	0.072813	0.003364	C(97)	0.033143	0.003385			
C(75)	0.247493	0.002902	C(86)	0.067927	0.003384	C(98)	0.030472	0.003360			
C(76)	0.206913	0.003009	C(87)	0.059342	0.003400	C(99)	0.022992	0.003325			
C(77)	0.183660	0.003086	C(88)	0.059724	0.003412	C(100)	0.037647	0.003278			
C(78)	0.152723	0.003146	C(89)	0.036454	0.003422	C(101)	0.050297	0.003220			
C(79)	0.128108	0.003193	C(90)	0.036413	0.003427	C(102)	0.047853	0.003138			
C(80)	0.114782	0.003231	C(91)	0.042230	0.003429	C(103)	0.035278	0.003018			
C(81)	0.109796	0.003265	C(92)	0.037893	0.003432	C(104)	0.034915	0.002838			
C(82)	0.101398	0.003294	C(93)	0.030563	0.003430	C(105)	0.031018	0.002555			
			C(94)	0.027986	0.003426	C(106)	0.017460	0.002051			
Restrictions are linear in coefficients.											

It is noted that the F statistic for above WALD test is statistically significant at 95% confidence level suggesting the rejection of null hypothesis of non-causality. This implies that the causality from spot prices to stock future prices do exist at NSE.

From the results of above regression analysis for VAR equations we conclude that there is bi-directional causality between NSE spot market and future market returns within the intraday trades confirming faster mutual price adjustments.

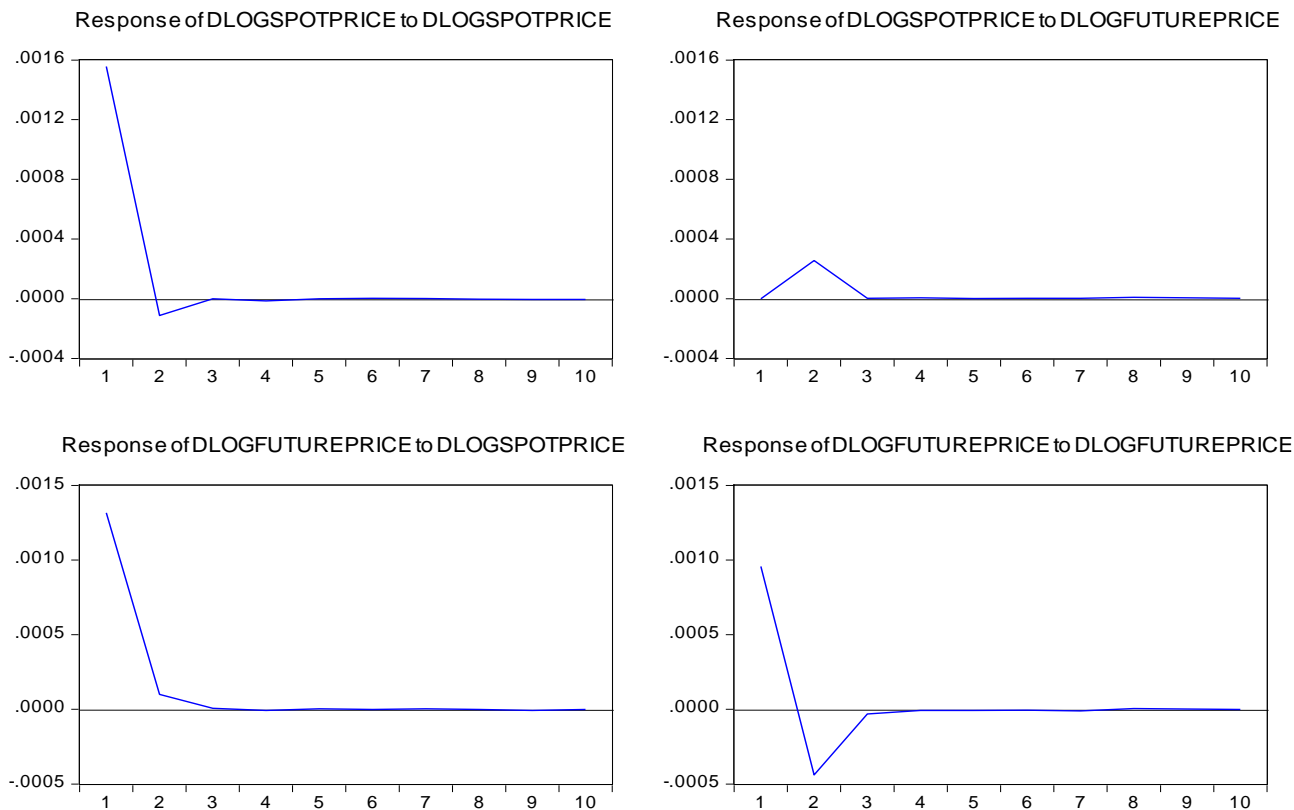
We further test impulse response function (IRF) and variance decomposition technique since this study seeks to identify the speed of price adjustment if any between the markets and to find the markets contribution towards the price formation. Impulse response function helps in identifying the response in endogenous variables in the VAR system when one unit of shock is given to error term in each VAR equation. This helps in identifying the speed of response between the variables in the VAR system. Variance decomposition technique helps in identifying the contribution of each variable in the system towards variance on its own and in other variables variance.

The following table 1.7 along with the graph 2.1 exhibits the output from impulse response function tested in the VAR system constructed above.

TABLE 1.7

IMPULSE RESPONSE FUNCTION (IRF)					
Response of DLOGSPOTPRICE:			Response of DLOGFUTUREPRICE:		
Period	DLOGSPOTPRICE	DLOGFUTUREPRICE	Period	DLOGSPOTPRICE	DLOGFUTUREPRICE
1	0.001557	0.000000	1	0.001315	0.000957
2	-0.000113	0.000257	2	9.93E-05	-0.000438
3	-7.83E-07	2.37E-06	3	7.26E-06	-3.05E-05
4	-1.40E-05	5.36E-06	4	-6.79E-06	-6.96E-06
5	-4.13E-07	1.76E-06	5	3.70E-06	-7.82E-06
6	3.04E-06	2.44E-06	6	-1.36E-06	-5.77E-06
7	6.57E-07	2.39E-06	7	4.22E-06	-9.96E-06
8	-3.07E-06	9.22E-06	8	-6.16E-07	4.98E-06
9	-5.55E-06	5.70E-06	9	-6.92E-06	1.36E-06
10	-5.11E-06	2.51E-06	10	-1.96E-06	-1.49E-06
Cholesky Ordering: DLOGSPOTPRICE DLOGFUTUREPRICE					

GRAPH 2.1: IMPULSE RESPONSE FUNCTION
Response to Cholesky One S.D. Innovations



The above result shows that the speed of adjustment of prices between two markets is quick since one minute data deployed for analysis. The graph exhibits the affect lasts for few minutes and dies off afterwards which indicates the model consistency. It is noted that the shocks to error term for each of the VAR specified equations found response from the variables within 3 minutes of time. This indicates that NSE spot and FO market prices are quickly adjusted together within 3 minutes of time frame.

The below table 1.8 present the results from variance decomposition technique for understanding the explanatory power of markets on each other's price variations. The variance of spot market prices and future market prices are decomposed and reported.

TABLE 1.8: VARIANCE DECOMPOSITION

Variance Decomposition of DLOGSPOTPRICE:			
Period	S.E.	DLOGSPOTPRICE	DLOGFUTUREPRICE
1	0.001557	100.0000	0.000000
2	0.001582	97.37037	2.629630
3	0.001582	97.37015	2.629848
4	0.001582	97.36924	2.630762
5	0.001582	97.36912	2.630883
6	0.001582	97.36890	2.631105
7	0.001582	97.36867	2.631325
8	0.001582	97.36538	2.634622
9	0.001582	97.36415	2.635853
10	0.001582	97.36393	2.636071
Variance Decomposition of DLOGFUTUREPRICE:			
Period	S.E.	DLOGSPOTPRICE	DLOGFUTUREPRICE
1	0.001626	65.38580	34.61420
2	0.001687	61.09104	38.90896
3	0.001688	61.07179	38.92821
4	0.001688	61.07138	38.92862
5	0.001688	61.07025	38.92975
6	0.001688	61.06956	38.93044
7	0.001688	61.06768	38.93232
8	0.001688	61.06715	38.93285
9	0.001688	61.06777	38.93223
10	0.001688	61.06777	38.93223
Cholesky Ordering: DLOGSPOTPRICE DLOGFUTUREPRICE			

The above table represents the proportion of total variance explained by self and other variable in the system. The results depict that the future prices are more endogenous than spot prices implies spot market perform better in price formation comparing to futures market and disseminate the price changes to future market. Though both the markets show bi-directional causality the spot market found to have greater power of price discovery.

CONCLUSION

Many empirical studies gave implications for the development of NSE FO market. Previous studies provided mixed results in regard to the causal relationship between NSE spot and FO markets. VAR model for estimating the causality between the markets found appropriate since the variables exhibit endogenous behaviour. The results from WALD restrictions depicts that there is indeed the bi-directional causality between NSE spot and FO market. The IRF exhibits the price

adjustments between the markets is quick and the prices from both markets influence each other and thereby adjust together within the time frame of three minutes. The variance decomposition analysis shows that the future market variance is explained by future market itself and also by variance in spot market. The variance in spot market is more self-explanatory and future prices have lower power in influencing the price variance in spot market. Thus this study concludes NSE spot and future markets have bi-directional causality and their prices are adjusted very quickly. Comparing to futures market spot market has greater influence in price discovery process.

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MOBILE PHONE MESSAGING INTERVENTIONS MAY PROVIDE BENEFIT IN SUPPORTING THE SELF-MANAGEMENT OF LONG-TERM ILLNESSES: AN ANALYSIS

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ABSTRACT

Over 70% of Indian population lives in villages and deprived of adequate healthcare facilities within their reach. Urban poor and rural population are equally suffering due to lack of skilled health workers, infrastructure and inability to pay for expensive and long term illness. 50% of deaths in India occur due to chronic diseases^{1,3}. Mobile penetration has been on rise and over 70% of Indian population now have access to mobile phones. With limited spend by government on healthcare new avenues are being looked to support long term illness. The objective of this paper is to analyze the views of over 300 doctors and assess if mobile based messaging intervention may help the patients in self-management of long term illness? The survey results indicate that 67% doctors use SMS for day to day patient care and 88% doctors believe that mobile based text messaging interventions may help self-management of long term illness. Further 93% doctors believe that mHealth including mobile based text messaging can play a crucial role in chronic disease management.

KEYWORDS

mobile phone messaging, self-management, long-term illnesses.

INTRODUCTION

Mobile text messages have become part of day to day life. Mobile based text messages called Short Messaging System (SMS) are being used in banking, promotion, sales, Railways, Airways etc. There is no industry vertical left where SMS are not being used. Even political parties use SMS for election campaign and government uses for dissemination of information. Healthcare is no different. Receiving SMS for appointments with doctors, Lab results or medication management is very common.

Citizen are well aware of the complexities in healthcare and very much concerned about the wellness. There has been a rise in expectation and citizen demand speedy, economical, effective and quality healthcare solutions available all the time. Approach to healthcare delivery has also changed in the last few years. Healthcare delivery organizations extensively use Information Technology and Mobile devices for patient care. With the availability of smart phones at low cost, the use of mobile phones for healthcare delivery has increased. There are direct communication channels between the doctor, patient and other hospital staff. It provides a great convenience to doctors and patient both. One such example is communication of abnormal lab results of a patient to doctor on the mobile through the use of an IT system is an everyday event and provides faster and accurate information about the patient condition to doctor. As mobiles have penetrated deeply in the day to day life of citizen, its use in healthcare has seen an increasing trend in last decade or so. The use of SMS by citizen, government, doctors and hospitals has seen a dramatic change and brought a positive result in the frequency and speed of communication among all stake holders in the healthcare delivery. Government use mobile text messaging for dissemination of information related to healthcare and wellbeing of the citizen. Healthcare delivery organizations, doctors and laboratories use SMS to remind or confirm patient appointment for the services or sending lab results. The use of wireless Telecommunication Network for flexible, efficient and effective healthcare delivery is called mobile health or commonly known as mHealth¹. Patients with chronic ailments needs to be in touch with hospitals or doctor on a regular basis and for long time. Availability of healthcare for long term illness or chronic patients is the basic need irrespective of culture, geography and gender. India is struggling to provide basic needs due to lack of infrastructure and skilled resources for growing population. More than 70% of rural population is deprived of healthcare due to unavailability of infrastructure and skilled healthcare workers in the villages. Chronic patients living in rural areas do not get adequate attention and also have to travel long distances for accessing healthcare facilities. SMS is one communication channel that connects the remotely located patients with healthcare facilities and bridge the gap between rural and urban divide.

LITERATURE REVIEW

There is a wide gap in terms of availability of healthcare to the urban and rural population. The Indian population estimated to be 1.32 billion as of 2016² and 68% of the population lives in rural areas and villages². Rural India lacks healthcare infrastructure and population living in these areas are deprived of any healthcare facilities³. More than 17.84% of world's population lives in India², but disease burden among the developing nations is much more in India than other developing nation. India carries a huge disease burden of 21% of world's population⁴. The spend on healthcare has reduced from 4.4% of GDP in 2010 to 1.2% in 2015⁵. With the shrinking budget and growing population healthcare is a major challenge for India. However, more than 70% of rural population have access to mobile phones and provide an opportunity to harness the power of mobile phones in addressing the healthcare issues.

mHealth offers an opportunity to address the long term illness. There are numerous studies suggesting SMS has been helpful in healthcare delivery to chronic patients in many ways. In a mHealth research done on 13 studies, it was found that 9 studies show improvement in adherence from 15.3 to 17.8% by use of SMS to promote medication adherence messages⁶. Standard messages were designed to reach to targeted patients. Unidirectional or bidirectional messages based on a schedule have produced remarkable results and improved medication adherence⁶. In another study impact of text messaging was reviewed. The study involved mental health situation and seen a positive trend since 2006 in text messaging⁷. Text Messages have been recommended as a tool in many mental illness conditions⁷. After a review of 36 studies it has been concluded in the research that text messages have a positive impact on healthcare delivery⁷.

Text messaging has given evidence of positive results for lifestyle management, preventive care and self-management of long term illness⁸. Further suggested that people meet their health advisors only a few times in a year but all of them have their mobile phones with them all the time. It would be best to send them reminders for behavioral prompts and other health advisory in a user friendly manner⁸. Apart from self-management of long term illness, there are many other areas where SMS based healthcare could be provided like support and touchpoints between appointments, population reach at low cost, acceptable mode of communication, overcoming stigma and isolation, disruptive, every day and in real time, overcoming disparities and personalized support etc. Among all these, disrupting people in their day to day life to change the habits from automatic habitual behavior to self-management and conscious action itself may bring significant change⁸. Long term illness like hypertension needs regular support to attend clinics and taking regularly and timely medication. Some trials of clinical interventions through SMS have given good results⁹. A SMS system integrated with clinical care to control hypertension in a low resource setting to test the efficacy of the SMS

based system to improve blood pressure of people suffering from hypertension has given good results⁹. Another study based in Bangladesh describes the study of SMS on diabetic patients on their knowledge and medication adherence, glycemic control and clinic attendance for patients with type 2 diabetes¹⁰. The study suggests that large number of patients have been benefited by the SMS based health promotion and SMS may be an effective tool for medication reminders, clinic and appointment reminders, diabetes health education and awareness about disease¹⁰.

SMS based mHealth intervention showed significant improvement in medication management, diet and physical activity advice. Regular communication through SMS to monitor and control clinical parameters like HbA1c, blood cholesterol, blood glucose and control of asthma and blood pressure shown significant improvement¹¹. A study conducted by ITS-CDSR through the department of public health and dentistry in India suggests SMS based communication influences the patients in achieving desired behavior change and improves the care delivery¹².

Study suggests that SMS technology is more cost effective and helpful in improving the patient attendance¹². An attendance of 79.2% was observed among the patients who were sent SMS reminders as compared to 35.5% attendance by those who were not sent any SMS reminders, suggests SMS based communication has improved the attendance more than twice¹².

OBJECTIVES

1. To assess if doctors use SMS interventions in day to day life for patient care?
2. Mobile phone messaging interventions may provide benefit in supporting the self-management of long-term illnesses?
3. To find out if mobile health can play a crucial role in chronic disease management and monitoring?
4. What are the factors that in clinician’s view are negative about mHealth?

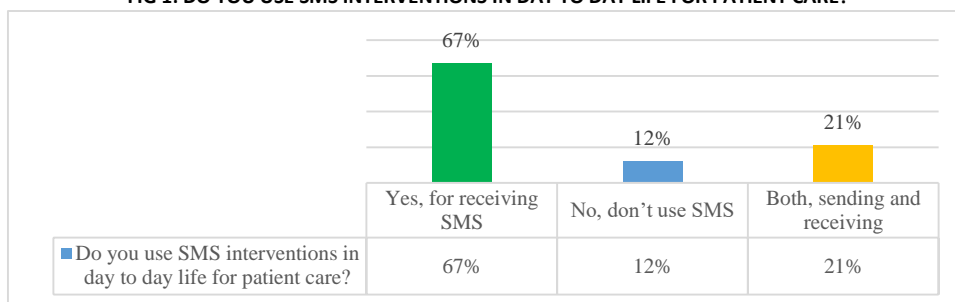
RESEARCH DESIGN

The research is based on a questionnaire based survey conducted between 7th July 2014 and 30th September 2014. The questionnaire was carefully designed keeping the factors that influence the delivery of healthcare through mobiles. The main factors considered were Urban-Rural divide of the population, lack of healthcare infrastructure, growing population of India and outburst of chronic disease in last couple of decades. Over 5000 doctors were approached through mailers. Only about 300 doctors responded to the questionnaire with their views and suggestions. The questionnaire included 24 questions of which only 4 questions relevant to this paper are considered in this research. The research is based on primary data on the views of doctors on mHealth in India.

DATA ANALYSIS/RESULT

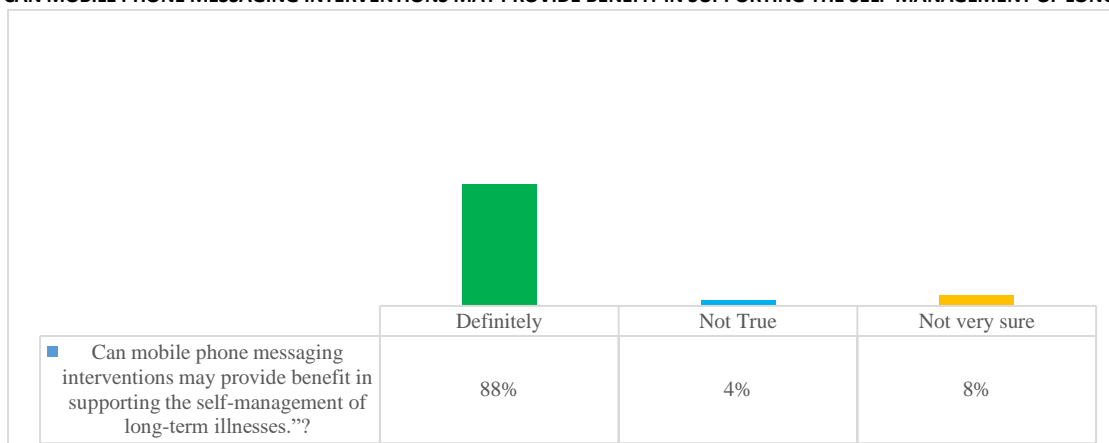
Research Question 1: Do you use SMS interventions in day to day life for patient care? In response to the question, 67% participating doctors (Fig 1) responded that they use SMS service for receiving patient’s healthcare related messages. These messages are generally for receiving confirmation of appointment, rescheduling the appointment or receiving clinical information like abnormal lab results. 21% participants use SMS for both receiving and sending messages. The two way communication between doctors and patients is about advice or instructions based on the message received, interpretation of lab results or suggestions, admissions etc. Receiving message in this case also is for confirmation of appointment, information about abnormal lab results or any other condition needs doctors intervention. 12% participants responded against the use of SMS for any communication with patient and suggested that they do not use SMS for any communication with the patients.

FIG 1: DO YOU USE SMS INTERVENTIONS IN DAY TO DAY LIFE FOR PATIENT CARE?



Research Question 2: Mobile phone messaging interventions may provide benefit in supporting the self-management of long-term illnesses? 88% doctors (Fig 2) believe that SMS interventions will definitely benefit the self-management of long term illness. Chronic conditions like cardiovascular disease and diabetes require regular monitoring and care. Most patients especially those who are living in rural areas may not have access to healthcare facility in the vicinity hence, may avoid going to a doctor on need basis. In such situations SMS intervention for education, medication adherence, awareness and lifestyle management may prove to be very useful and patients can do self-management of these chronic conditions. The survey result suggest only 8% doctors are not sure of the benefit while only 4% strongly believe that SMS intervention will not benefit the patients.

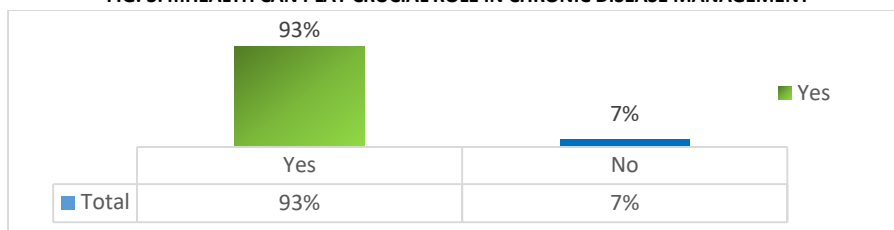
FIG. 2: CAN MOBILE PHONE MESSAGING INTERVENTIONS MAY PROVIDE BENEFIT IN SUPPORTING THE SELF-MANAGEMENT OF LONG-TERM ILLNESSES?



Research Question 3: To find out if mobile health can play a crucial role in chronic disease management and monitoring? A WHO study suggests that of all the deaths occurred in 2004, 11% were due to injuries and 50% deaths were due to chronic diseases¹³. Chronic diseases such as cardiovascular diseases, diabetes, cancer and mental health etc. are the main cause of deaths and disability in India¹³, and this is going to increase in next 25 years¹³. These diseases are equally

prevalent among urban poor and rural population¹³. In chronic conditions patients require regular care and monitoring. Lack of infrastructure and lack of skilled health workers in rural India is a constraint for economical and effective chronic care. mHealth is a cost effective and efficient in reaching out to remote areas and may provide economical and effective interventions for managing chronic disease¹⁴.

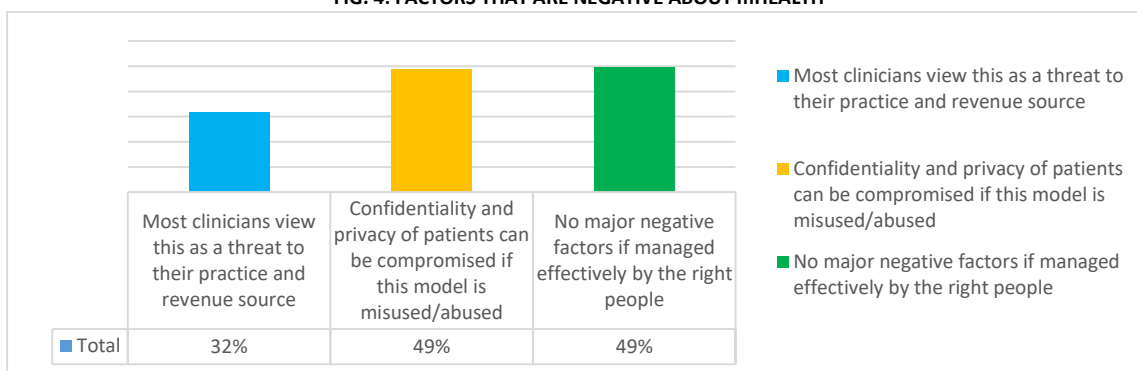
FIG. 3: mHEALTH CAN PLAY CRUCIAL ROLE IN CHRONIC DISEASE MANAGEMENT



93% respondents (Fig 3) in the survey believe that mHealth may play a crucial role in managing chronic conditions. Most chronic patients require continuous counselling, awareness and education about the lifestyle and behavioral habits. Over 70% of Indian population use mobile phones for day to day communication which may also be used for chronic condition management. Mobile phone text messaging intervention may be used as a tool to bring change in the lifestyle of the patients¹⁵. mHealth could be more useful for rural population which has no healthcare facilities to manage the chronic illness and have to travel long distance to reach out to healthcare facilities, which is expensive and difficult for rural population. Only 7% (Fig 3) respondents believe that mHealth may not play any crucial role in chronic disease management.

Research Question 4: What are the factors that in clinicians view are negative about mHealth? 49% clinicians (Fig 4) do not see any major negative factors in the use of mHealth for clinical interventions. However, 32% clinicians think that mHealth may be a threat to their practice and revenue source. Another major recommendation by clinicians (49%, Fig 4) suggest that confidentiality and privacy may be compromised if mHealth is misused or abused. More importantly 49% do not see any major negative factor suggest that mHealth as a model will be successful and SMS intervention as part of mobile service may help patient in self-management of long term illness.

FIG. 4: FACTORS THAT ARE NEGATIVE ABOUT mHEALTH



CONCLUSION

Poor healthcare infrastructure, lack of awareness and lifestyle is causing outburst of chronic diseases in India. Mental health, cardiovascular diseases, cancer and diabetes are the 50% reason for death in India. Urban poor and rural population is most deprived of healthcare facilities. While people may not have access to healthcare facilities, but more than 70% Indian population has access to mobile phones. The opinion of 300 doctors who responded in the survey suggest that Mobile phone messaging interventions may provide benefit in supporting the self-management of long-term illnesses. Further 93% doctors believe that mHealth may play a crucial role in chronic disease management.

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LECTURERS' PERCEPTION ON STUDENTS' APPRAISAL OF COURSES AND TEACHING: A CASE OF UNIVERSITY OF CAPE COAST, GHANA

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ABSTRACT

The appraisal of courses and teaching by students is a procedure designed and adopted by the University of Cape Coast (UCC) to elicit information from students on the quality of teaching and learning. It is meant to serve as a means of involving students in the institutional quality assurance system. We investigated university lecturers' perception on the students' appraisal of courses and teaching. Data were drawn from survey conducted among lecturers in the University of Cape Coast, Ghana. The evaluation were rated from Strongly Disagree (1) to Strongly Agree (4). Measuring teaching effectiveness is important because the evidence produced is used to make decisions on various facets of academic life. A sample of 310 out of 553 lecturers at post were targeted and a total of 251 lecturers responded to the questionnaires given a response rate of 81%. Majority of respondents accept students to evaluate them (97%), with 83% agreed that students possessed value judgments, which could enable them evaluate their lecturers. Further, some of the lecturers believe that feedback from the student appraisal practice promotes self-improvement (91%), while, 39% respondents were of the view that evaluation by students does not influence their teaching or compliance with rules and regulations. Sixty-nine respondents were of the view that Heads of Departments (HOD's) should be allowed to evaluate lecturers, while fifty-four suggested assessment committees. The respondents were of the view that lecturers need to be consulted in designing student appraisal instrument in order to ensure ownership and acceptability.

KEYWORDS

students' appraisal, replicating, lecturers' evaluation, quality assurance system, classroom effectiveness.

INTRODUCTION

Formal student evaluation systems have been part of the higher education landscape for decades and have prompted extensive debate in the literature about their usefulness for lecturers and students (Spiller, D., & Ferguson, 2011; Beran & Rokosh, 2009). Students demand for greater transparency around the outcomes of evaluations, lecturers' responses and institutional pressures for greater accountability across the universities are intensifying the focus on formal evaluations for quality purposes. The appraisal of courses and teaching by students could be explained as a periodic evaluation of lecturers' performance by students (Machingambi & Wadesango, 2011). It involves a systematic gathering and analysis of information, on the basis of which decisions are taken regarding the classroom effectiveness, efficiency and/or competence of the lecturer in realising the set of professional goals and the desire of the institution to promote effective learning.

The Association of Africa Universities (AAUs) in the year 2000, after a meeting unanimously stipulated that each and every tertiary institution must have quality assurance system for internal accountability. The University of Cape Coast upon this directives set up the Academic Quality Assurance Unit (AQAU) in 2001. In the year 2006, this office was upgraded to the Directorate of Academic Planning and Quality Assurance (DAPQA). The Directorate has been mandated for the internal monitoring and evaluation of institutional activities as well as conducting surveys to seek the views of other customers of the institution.

REVIEW OF LITERATURE

The role of lecturers is significant in improving the quality and standard of teaching. Improving the efficiency and equity of schooling partly depends on ensuring that, lecturers are highly skilled, well resourced, and motivated to perform at their best (Weinberg 2007; Santiago & Benavides 2009). On one hand, the effective monitoring and evaluation of teaching is central to the continuous improvement of the effectiveness of teaching in school. It is essential to know the strengths of

lecturers and those aspects of their practice which could be further developed. From this perspective Santiago and Benavides (2009) emphasised that, students' evaluation is a vital step in the drive to improve the effectiveness of teaching and learning and raise educational standards. The fundamental idea is that students, as stakeholders in the education enterprise and direct beneficiaries of the teaching activities, have the right to evaluate their lecturers.

Research in education has been faced with the problem of expectancies. Within universities, customers are classified in different groups of actors, and the obvious customers of education are those being educated, the students and those teaching, lecturers (Hewitt & Clayton 1999). The lecturers are the primary internal customers while the students are clearly the primary external customers of the teaching and learning process. The product of higher education is the education and then, depending on the role developed by them during the course, the students can be classified as internal or external (Kanji & Tambi 1999). The classification of the customers as internal and external emphasizes that the internal customers are those who work to the satisfaction of external customers (Juran, 1988).

It is worth noting that, students also have their well-defined characteristics which they expect lecturers to demonstrate. A lecturer who does not live up to his/her students' well defined expectations may run into disciplinary problems in trying to innovate in a traditional classroom. Hence, a study on students' appraisal of their lecturers is not unjustifiable. Measuring teaching effectiveness is important because the evidence produced is used to make decisions on various academic situations. For instance, the outcome of students' appraisal can be used to improve classroom instruction, student learning, foster professional growth of the lecturer and administrative purposes such as promotion, confirmation and renewal of appointment. Most academia would agree, however, that since many important decisions are made on the basis of information gathered in the evaluation process, it is crucial that the instruments used be both valid and reliable.

In spite of a popular conception that lecturers feel hostile to student evaluations, there is considerable literature that challenge this view. Schmelkin, Spencer and Gellman (1997) reported that lecturers' attitudes to the overall usefulness of student evaluations is positive, while Nasser and Fresko (2002) reported that the lecturers in their study were "mildly positive" about student evaluations. Braskamp and Ory (1994) also refute many of the common concerns associated with student evaluations, while the claim of a more positive view of evaluations is supported by the studies of Penny and Coe (2004) and Beran and Rokosh (2009). However, while these studies challenge the reported academic hostility towards student evaluations, Beran and Rokosh (2009) cautioned that the acceptance of student evaluations does not correlate with perceptions of their usefulness for enhancing teaching or with actual usage of the instrument for teaching changes. These authors speculate that "since instructors find ratings to be of little practical value, their seemingly positive attitudes regarding student ratings actually reflect a neutral viewpoint or passive acceptance of the ratings in general" (P. 183). Similarly, Smith (2008) commented that "there is a few usage of the result for the development of the lecturers' mode of delivery" (P. 518). For instance, Hendry, Lyon and Henderson-Smart (2007) have reported a close alignment between teacher conceptions and the types of changes that teachers made to their courses as a result of student feedback. They further indicated that, teachers with a student-focused approach and who saw learning as involving strong conceptual change were more responsive to feedback and more positive about strategies for improving their teaching.

The literature on validity and reliability of student appraisals is relevant to the extent to which these may influence teachers' perceptions of the usefulness of student feedback. Costin, Greenough and Menges (1971) iterated that the usefulness of the evaluation results depends heavily on the confidence the lecturers have in the interpretation of the ratings. Surveys have shown that a majority of teachers believe that a teacher's raising the level of standards and/or content would result in worse evaluation for the teacher, and that students in filling out student's evaluation of teaching are biased in favour of certain teacher's personalities, looks, disabilities, gender and ethnicity (Birnbaum, 1999). A further reported concern is that students are not in a position to assess the effectiveness of the teaching and learning experience until a passage of time has elapsed. Other misgivings relate to the notion that irrelevant variables influence students' perceptions of the merits of a course and the teaching; these include factors such as the difficulty of a course, the grading propensities of the teacher and the more general idea of teacher popularity.

The role of emotions in lecturers' responses to student evaluations and the use of the information to underpin teaching changes cannot be overlooked. It is relevant to recognise that; the teacher is the pivot around which the classroom tasks revolve. He has been vested with some autonomy which makes him the superior in the classroom. If the manager has to be assessed by subordinates, then it is ideal to investigate how the superior feels about the subordinate's introspection. Moore and Kuol (2005) studied on individual reaction to student feedback and reported that there is a definite link between individual reaction to feedback and the nature of subsequent attempts to enhance performance. Arthur (2009) also reported that all the interviewees in his study expressed emotional responses to feedback.

Marsh and Bailey (1993) (as cited in Machingambi & Wadesango, 2011) stated that literature on Students Evaluations of Teaching Effectiveness consists of thousands of studies and dates back to the 1920s and earlier. For instance, studies in the late 1920s, required students and expert evaluators to describe teachers they considered to be effective, and to rate characteristics of good teachers. In the 1930s, scales were devised for the evaluation of teachers based on qualities believed to be important in teaching (Velligan, Lam, Glahn, Barrett, Maples, Ereshefsky, & Miller, 2006). As a preliminary step in developing a system of teacher evaluation, Velligan et al. (2006) reported that Columbia University formed a committee to formulate criteria that served as the basis for teacher evaluations. The criteria consisted of a set of principles and objectives. For example, one of the principles was that both peer and student evaluations should be included in the evaluation process. Jackson (1998) identified nine approaches to teacher evaluation which included students' ratings, student achievement, peer-rating, self-rating, teacher interview, and indirect measures. Berk (2005) indicated twelve potential sources of evidence to measure teaching effectiveness which included student ratings, self-evaluation, administrator ratings, and teaching portfolios.

Among the approaches to teacher evaluations considered by DAPQA of UCC are students' ratings/interviews. Students ratings is the most influential measure of performance used in promotion and tenure decisions at institutions that emphasize teaching effectiveness (Emery, Kramer & Tian, 2003). According to Seldin, 1999, (as cited in Berk, 2005) student ratings have dominated as the primary measure of teaching effectiveness for the past 30 years. However, over the past decade there has been a trend toward augmenting those ratings with other sources of teacher performance. Hence most offices consider students' interviews as sources which serve to broaden and deepen the evidence base used to evaluate courses and assess the quality of teaching.

Students interviews furnish source of evidence that faculty are rated more accurately, trustworthy, useful, comprehensive and believable (Mohanty, Gretes, Flower, Algozzine, & Spooner, 2005). One type of student's interviews recommended for the appraisal of courses and teaching is the classroom group interviews. It was suggested that this should involve the entire class, but be conducted by third party other than the lecturer, usually a staff from a mandated office in the same institution like office of DAPQA in UCC or student services professionals.

Berk (2005) indicated that, it is imperative to measure teaching effectiveness because the evidence produced is used for major decisions about our future in academia, such as formative and summative decisions. Formative evaluation is usually performed by peer consultation where other experienced teachers will review one of their peer's instructions. Generally, peer teachers sit in on a few lessons given by the teacher and take notes on their methods, and later, the team of peer teachers will meet with the said teacher and provide useful, non-threatening feedback on their lessons. The peer team will offer suggestions on improvement, which, the said teacher can choose to implement.

Summative decisions are final and they are rendered by administrators or colleagues at different points in time to be used by teachers to improve the quality of teaching, or to evaluate the overall effectiveness of a teacher, particularly for tenure and promotion decisions (Mohanty et al., 2005). Summative student evaluations of teaching (SETs) have been widely criticized, especially by teachers, for not being accurate measures of teaching effectiveness (Dunegan & Hrivnak, 2003; Emery, Kramer, & Tian, 2003; Meritt, 2008).

The evidence that some of these critics cite indicates that factors other than effective teaching are more predictive of favourable ratings. In order to get favourable ratings, teachers are likely to present the content which can be understood by the slowest student (Entwistle, & Ramsden, 2015). Many of those who are critical of SETs have suggested that they should not be used in decisions regarding employment, retentions, promotions, and tenure.

The motivation factor for this current study is the three previous researchers who conducted same studies in developing countries of Nigeria, South Africa and Malaysia. In Nigeria, Yusuf, Ajidagba, Agbonna, and Olumori (2010) presented a paper entitled "University Teachers' Perception of the Students' Evaluation of Teaching on Instructional Practices in Nigeria" at the first international conference of collaboration of Education Faculties in West Africa (CEFWA) held at University of Ilorin, Ilorin, Nigeria from 9th to 11th of February, 2010. The purpose of the paper was to investigate the perceived effect of students' evaluation of teaching on university teachers' instructional practices in Nigeria. Three Hundred and Twenty-Six respondents were randomly drawn from three Nigerian universities. The

result showed that although lecturers generally do not accept students' evaluation of their teaching, they perceived that the students' evaluation of teaching would bring about positive changes in their instructional practices.

Secondly, Machingambi and Wadesango (2011), from South Africa conducted a study entitled "University Lecturers' Perceptions of Students Evaluation of Their Instructional Practices" their article examines lecturers' perceptions of student evaluations on their instructional practices. A total of sixty lecturers from an institution of higher learning in South Africa participated in the study. Data were collected through a constructed 20-item Likert-scale questionnaire. Data were analysed using frequency tables and the discussion revolved around the three research questions that formed the pillar of the study. The study established that, generally university lecturers had negative perceptions of students' evaluation of their instructional practices. The study specifically revealed that while lecturers were sometimes positive about the use of results of student evaluations for formative purposes, they were strongly opposed to the use of such information for summative purposes.

Then again, in Malaysia, Suriyati, Suguna Nurashikin and Wan Suriyani (2009), came out with a study entitled "lecturers' perception on student evaluation at University of Kuala Lumpur, Malaysia. A total of 159 lecturers from different campuses took part in this study. Findings showed that there is significant difference between the perception and gender; however, there was no significant difference between perception and areas of specialization. Majority of the respondents agreed that students have the right to judge the quality of the teaching of their lecturers but are skeptical about the favoritism which might lead to misinterpretation of the lecturer's score.

IMPORTANCE OF THE STUDY

Students' appraisal of courses and teaching, once conducted in the right manner, would yield potential benefits to many stakeholders in the university education context, including lecturers, the university itself and the students. Specifically, the study investigated; how lecturers value students' appraisal of courses and teaching, the potential function of the outcomes of the exercise either for formative or summative or both functions and whether lecturers have other suggested mechanisms for lecturer's evaluation rather than student's appraisal of courses and teaching. Knowledge of lecturers' perceptions is critical as it will stimulate further discussions and thinking around the issue of strengthening the practice. In this regard, lecturers are given a voice and an active role in the evaluation process and it is hoped that they will be more likely to accept the results from students' evaluations. Furthermore, the exercise is driven by the desire to improve teaching and learning in the university, through effective feedback. Additionally, it would add up to existing literature on students' evaluation studies.

STATEMENT OF PROBLEM

Students are stakeholders in education. The implication here is that if students' appraisal of courses and teaching is made a part of the evaluative process, there could be improvement in teaching and learning in tertiary institutions (Maiwada 2001; Iyamu & Aduwa, 2005). Iyamu and Aduwa (2005) assert that there are really many questions about the reliability, validity and utility of student evaluation of lecturers, especially when they are for personnel development and other summative purposes. DAPQA's major activity since its inception in 2001 has been the monitoring and evaluation of lecturers through student interviews. Since 2002, DAPQA has been evaluating lecturers through the appraisal of courses and teaching by students. It appears that, not all the lecturers appreciate the outcome of the appraisal of courses and teaching. While the feedback they receive is beneficial and helpful for their development as lecturers, others do not. In spite of the apparent high level of acceptance of the evaluation process among the lecturers, the perceptions of the lecturers regarding the evaluation has not been assessed. To make student evaluations more reliable and valid, it may be necessary to listing to all stakeholders involved. In the light of this, the lecturers' perception about the students' evaluation exercise would be a help to the design of standard instruments for the appraisal exercise. Again lecturers may need to be evaluated in a variety of types and levels of courses they handled, however do lecturers acknowledge the use of students' evaluations for formative purposes only, summative purposes only or both? This study, therefore, sought to engage lecturers in order to understand their perceptions of students' evaluation of their academic activities in a large University.

OBJECTIVES

The main objective for this study is to assess lecturers' perception of the students' appraisal of courses and teaching regularly conducted by DAPQA. The specific objectives are to:

1. To assess how lecturer's welcome student evaluation of this nature;
2. To identify the purpose that lecturers wish this evaluation exercise to serve; and
3. To come out with other alternative items that lecturers wish to be included in the current students' evaluation exercise.

HYPOTHESES

The study is guided by the following hypotheses

- (a) The extent lecturers value students' appraisal of courses and teaching
- (b) Students' appraisal of courses and teaching serve formative function, summative function and/or both?

RESEARCH METHODOLOGY

This study adopted a survey design. The target population consisted of all the 553 lecturers at post as at November 2014. Krejcie and Morgan's (1970) table for determining sample size for categorical data was used to arrive at accurate sample size of 226. In support of the Krejcie and Morgan table values of sample, Cochran's (1977) formula was used also to calculate the sample size of 384. Cochran's sample size formula for categorical data is defined as $n_0 = ((t)^2 * (p)(1-p))/(\alpha)^2$ Where t = value for selected alpha level, $(p)(1-p)$ = estimate of variance and α = acceptable margin of error for proportion being estimated. With the assumption that, 50% from total population of 553 lecturers will say that, they agreed to the student's evaluation, with normal population distribution value of $t=1.96$. The sample size value of, $n_0 = ((1.96)^2(.5)(.5))/(.05)^2 = 384.16$. Therefore, the final sample size calculated was a combination of the two, divided by two to get 310 (226 +384= 610/2= 310). A total of 251 lecturers responded out of the 310 questionnaires sent to them, given a return rate of 81%. They were selected through a multi-stage technique. The lecturers were first stratified on the basis of their Faculties and Schools. Then using the proportional sampling technique, each Faculty/School was given a quota of respondents. The respondents from the Faculties and Schools were selected using the simple random technique, specifically the calculator randomised method.

A 27-item questionnaire with a Likert scale options was used for the data collection. The modified questionnaire was replicated from the previous research activities which the study intends to apply to the University of Cape Coast, Ghana. Data collection was done by trained Senior Research Assistants from DAPQA, UCC. They personally handed questionnaires to lecturers in their offices and later went for it.

RESULTS AND DISCUSSION

THE BACKGROUND INFORMATION OF RESPONDENTS

The background characteristics of the respondents are presented in Table 1. Seventeen percent (42) of the total respondents constitute the female, with a trunk of the lecturers (73%) (183) found within the 40-59 age bracket. Forty-three percent of the respondents have spent less than six years with the university, with 73% (183) of them spending less than eleven years. In the case of the ranks of the respondents, 8% of them were in the Associate and full professorial rank, seventy-three percent were lecturers and below.

LECTURERS' PERCEPTION ON THE CONCEPT OF STUDENTS EVALUATION

Results in Table 2 can be grouped into two categories: acceptability of the concept of appraisal (item 1-3) and the implications of the appraisal for teaching and learning (4-10). Majority of the respondents (97%) (244) accept student evaluation, 92 percent (230) agreed that students are responsible enough and also possessed value judgments (83%) (207) which could enable them evaluate their lecturers. Thus lecturers have confidence in students as capable of assessing their output at work. This is consistent with the report of Nasser and Fresko (2002) that the teachers in their study were "mildly positive" about student evaluations, as well as the findings of Suriyati et al. (2009), where lecturers agreed that students have the right to judge their quality of teaching.

TABLE 1: BACKGROUND INFORMATION OF THE RESPONDENTS

No.	Item	Categories	Frequency	Percent
1	Gender	Male	209	83.3
		Female	42	16.7
2	Age (in years)	up to 39	15	6.0
		40-49	101	40.2
		50-59	82	32.7
		60 and above	53	21.1
3	Duration of service (in years) at UCC	<=5	107	42.6
		6-10	76	30.3
		11-15	33	13.1
		16-20	12	4.8
		>=20	23	9.2
4	Rank of respondents	Professor	7	2.8
		Associate Professor	13	5.2
		Senior Lecturer	51	20.3
		Lecturer	144	57.4
		Assistant Lecturer	36	14.3
5	Status of respondents	Full time	237	94.4
		Part time	14	5.6

N = 251

With respect to items that related to the components of punctuality, transparency, self-reflection and relationships with students (items 4-8) two out of three lecturers were of the view that evaluation could assist to promote effective working environment. For instance, 77% (194) respondents agreed that they would be more prepared for their teaching if they knew they would be evaluated by students. Thus the respondents established that students' evaluation creates a sense of awareness in lecturers. Thirty percent (75) of the lecturers disagreed that student's evaluation will make them punctual and committed to their work, with 32% and 33% (80 and 83) saying the evaluation cannot make them transparent to students and being innovative respectively.

TABLE 2: LECTURERS' VIEW ON ACCEPTABILITY AND RECOGNITION OF STUDENTS' EVALUATION

No.	Item	Disagree n (%)	Agree n (%)
1	Student evaluating lecturer is acceptable	07 (2.8)	244 (97.2)
2	University students are responsible enough to evaluate their lecturers.	21 (8.4)	230 (91.6)
3	Students possess good value-judgments to evaluate their lecturers.	44 (17.5)	207 (82.5)
4	Lecturers will be more prepared for their teaching/research if evaluated by students.	57 (22.7)	194 (77.3)
5	Lecturers will be more punctual to class if they know that their students will evaluate them.	75 (29.9)	176 (70.1)
6	Lecturers will be more transparent to students if they know that they will be evaluated by their students.	80 (31.9)	171 (68.1)
7	Student evaluations of lecturers help improve lecturer-student relationships	73 (29.1)	178 (70.9)
8	Student evaluations of lecturers help lecturers to be more committed to their jobs.	75 (29.9)	176 (70.1)
9	Lecturers will be more innovative in their teaching if they are evaluated by their students.	83 (33.1)	168 (66.9)
10	Lecturers will abide by the rules and regulations more if they know that their students will evaluate them.	99 (39.4)	152 (60.6)
Total		251	100

Thirty-nine percent (99) of the lecturers were of the view that evaluation by students was not what was going to influence them to abide by the rules and regulations of teaching. One interpretation for this results is that lecturers are disciplined enough to abide by rules and regulations and would not need the assessment of students to enable them perform their expected functions. An alternative interpretation is that one would need more than the assessment of students to achieve adherence to rules and regulations. Therefore, this study though having 61% (152) of the lecturers in agreement, it still indicate the need to have multi-approach to achieve the desired outcome.

The question on what purpose should the results of student's appraisal serve, either for Formative, Summative or both are depicted in Tables 3 and 4. Ninety-one percent (228) of the lecturers believe that feedback from the student appraisal promotes self-evaluation. That's lecturers use the information to make personal assessments of how they are performing on their job. Berk (2005) indicated that, it is imperative to measure teaching effectiveness because the evidence produced is used for major decisions about the future of academia. Responses from this study have shown that, generally, appraisal of lecturers by students serve as a ground for self-evaluation, 88% (220) while, 44% (109) is of the view that it will not improve students' learning. Eighty-three percent (209) agreed on the use of the assessment results as part in selecting leadership for the Faculties showing a strong acceptance of the idea of basing administrative decisions on results from evaluation by students (see Table 4).

TABLE 3: FORMATIVE FUNCTIONS OF STUDENTS' APPRAISAL OF COURSES AND TEACHINGS

No.	Item	Disagree n (%)	Agree n (%)
1	Feedback on students' evaluation helps lecturers to improve on their teaching	23 (9.2)	228 (90.8)
2	Results of students' evaluation help to improve students' learning.	109 (43.6)	142 (56.4)
3	Results of students' evaluation can foster professional growth of lecturers.	46 (18.4)	205 (81.6)
4	Students' evaluation reports help lecturers to evaluate themselves.	31 (12.3)	220 (87.7)
Total	251	100	Total

On the other hand, 35 percent of the lecturers disagreed to the idea of using student evaluation results for promotion, 34 percent (84) disagreed using for confirmation and 31% disagreed for renewal of appointment. However, 77 percent agreed to be used for selecting the department or faculty awards. Although, the summative purpose of student's evaluations has been widely criticised for not being accurate measures of teaching effectiveness (Subramanya, 2014; Dunegan & Hrivnak, 2003; Meritt, 2008), this current study's finding is on the contrary. The findings from this study presuppose that majority of the respondents support

the idea of student appraisal as a means for administrative decision making. The use of student evaluations of teaching would reveal whether a lecturer is doing his work well or not so that faculty can decide on how to encourage or remediate problems to enhance teaching and learning.

TABLE 4: SUMMATIVE FUNCTIONS OF STUDENTS' APPRAISAL OF COURSES AND TEACHING

No.	Item	Disagree n (%)	Agree n (%)
1	Results of students' evaluation are relevant for headship positions (administration).	42 (16.8)	209 (83.2)
2	Students' evaluation results should be part of the criteria for promotion of lecturers.	87 (34)	164 (65.2)
3	Students' evaluation results should be part of criteria for confirmation of lecturers' appointments.	84 (33.6)	167 (66.4)
4	Results of students' evaluation should be included in decisions on lecturers' renewal of appointment.	77 (30.7)	174 (69.3)
5	Students' evaluation results should be part of the criteria for selecting the best lecturers for award in the Department/Faculty.	68 (23.2)	193 (76.8)
Total	251	100	Total

SUGGESTED STRATEGIES TO MEASURE TEACHING EFFECTIVENESS

The study also recognised the experiences of the lecturers by asking them to make an input if there could be an alternate strategy to students' evaluation (see Table 5). Sixty-nine respondents were of the view that Heads of Departments (HOD's) should be allowed to evaluate lecturers, while 54 suggested assessment committees. The assessment by HOD's is already in place for summative, perhaps the way forward is to expand its scope. For those who proposed the setting up of an assessment committee, their main reason was that lecturers who were strict, disciplined and diligent in their work would always be marked down by students, especially students who are not serious in class. Other forms of assessment mechanism given by the respondents are shown in a descending order in Table 5.

TABLE 5: ALTERNATIVE MECHANISMS SUGGESTED FOR THE APPRAISAL OF LECTURERS

SUGGESTIONS	Frequency
1. Heads of Department (HODs) should evaluate lecturers.	69
2. Setting up an assessment committee to assess rather than students who normally mark down lecturers who are strict on them.	54
3. Peer assessment- some lecturers appointed to assess colleagues.	45
4. Supervision and observation of lecturers during lectures by mentors and senior colleagues.	42
5. Online appraisal by HODs and the lecturers themselves.	33
6. Self-appraisal by Lecturers.	30
7. Research and Publication of lecturers to be used.	21
8. Assessment of course outline and teaching methods of the lecturers.	18
9. Contribution of lecturers to their Departments e.g. seminars and outreach activities.	15
10. Evaluation of both lecturers and students at same time.	9

N = 251 (NB. There were multiple responses)

DISCUSSIONS AND RECOMMENDATIONS

From the results of the data collected in this study, it could be concluded that generally lecturers of UCC have positive perceptions of the student's appraisal of courses and teaching. Lecturers also concurred that results from student appraisal studies should be used for summative and formative decisions such as lecturer hire, retention and extension of contracts. Further, the study also revealed that beyond the student's appraisal, lecturers desire other forms of assessment such as HOD ratings, committee and peer assessments.

Based on the findings from this study, it is imperative to continuously allow students to appraise their lecturers. Further, decision-making on lecturer confirmations, renewal of contracts and promotions, should have the results of students' appraisal as necessary requirement as information available from this study has suggested that lecturers view such information as valid representation of what they do.

One critical observation from this study is that, almost all the available methods for lecturer appraisal have got some set-backs. In order to reduce the effect of a single method, there is the need for a multi-approach. This could involve assessments from the perspective of students, HOD's, colleague lecturers and other relevant stakeholders. This would give a more concrete overview of the individual and a fairer evaluation results. Therefore, some of the suggested mechanisms for assessment by the lecturers must be considered as an additional assessment mechanism.

The study also sees it appropriate, that, for the evaluation of teaching effectiveness in Universities to be recommendable, it is important to have interaction with students by educating them on the need to be objective when evaluating lecturers. It is also, an important to have interaction with lecturers as well, on the need for the classroom evaluations.

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EDUCATION AS A MEANS OF WOMEN'S EMPOWERMENT: A STUDY ON THE PARENTS' ATTITUDES**DEEPAJ CHAKRABARTY****LECTURER****BBA DEPARTMENT****GC COLLEGE****SILCHAR****DEBOSMITA NATH****STUDENT****BBA DEPARTMENT****GC COLLEGE****SILCHAR****DR. D. GHOSE****ASSOCIATE PROFESSOR****MBA DEPARTMENT****ASSAM UNIVERSITY****SILCHAR****ABSTRACT**

The role of female education has for long been recognized as a means for empowering women and encouraging equality in our country. But, there have been impediments in the form of a conservative attitude of the people of our societies, lack of initiatives by the Government and educational institutes etc. But the last decade has seen the paradigm to be favorable towards the girl's education and Government offering more impetus for families to send a girl child to the schools. The study, conducted in the form of survey, unfolded a proportional relation between the provisions of the Government such as scholarships and mid-day meals and the positive outlook of the parents to send their girl child to schools in the place of Narsinghpur, Barak Valley. The study also revealed that the parents seem to be apprehensive to send a growing girl child, who has attained the age of puberty if there is lack of proper and separate sanitation facilities for girls in the schools. Therefore, the study also recommends an improvement in the sanitation facilities provided in the school.

KEYWORDS

female education, scholarships, mid-day meals, empowerment & equality.

I. INTRODUCTION

The spread of formal schooling has for long been recognized as the stepping-stone for most of the society in achieving glory and success. The role of formal education especially in the rural areas in building creativity among the citizens of the society cannot be denied. India has been a country enriched with a strong culture of innovative education encouraging the students in the field of art, literature and science. The ideas of many of the social thinkers such as Mahatma Gandhi, Rabindra Nath Tagore and many others have been accepted in developing the model for elementary education. Free and compulsory education to all children up to the age of fourteen years is the Constitutional commitment in India.

The Government of India initiated a number of programmes and projects to attain the status of universal enrolment. Despite all these significant achievements, the goal of universal elementary education remains elusive and far. The problem behind achieving the target of UEE is the distorted and discriminative attitude of the majority of the rural population towards girl's education. They still possess the attitude of indifference when it comes to the education, financial security and development of mental faculties among the girls. Although there has been a certain shift in the paradigm over the last few years, but the complete elimination of the parasitic belief that girls are destined to be house-makers has not been possible. At a very tender age, the girls belonging from the rural population are thought of being handed over to a family where her role would only be confined to the household activities.

II. STATEMENT OF THE PROBLEM

As mentioned in the introductory section, the indifference of most of the rural population towards girl's education had given undue dominance to the male counterpart. This has resulted in a distortion of the scope for development for a society. The scenario keeps getting worse if observed at the interior part of the country. The study, which was conducted in the NutonBajar area, also had the same hypothesis prior to its observation. The study not only realized that it is important for proper communication regarding the importance of girl's literacy for a society, but it also intended to unfold a true but pathetic condition of girl's education in the study area. Researchers suffered from the basic inquisitiveness of the reasons for the distorted perception regarding the girl's education in the rural sector. Therefore, the specific problem of the study under consideration was:

Why are girls deprived of the opportunities of developing their mental faculties by providing elementary education to them?

Although, the problem stated above is subject to the hypothesis that there is a negative perception among the rural population regarding the formal education to be provided to the female child in the family. The hypothesis is inculcated within the research due to the pathetic national scenario of girl's education.

III. LITERATURE REVIEW

The education sector in our country has off late received the attention that it should receive. There have been policies adopted by the Government our country on issues related to the girls and the rural education. According to a report of CABE committee on girl's education and common schooling system, (June 2005), there should not be any discrimination made while providing education to the students in the society.

A study conducted by Kotwani (2012), where context was to study the attitude of parents towards girl education in Indian context. Comparisons on the sub sample based on the gender, location, and literacy levels of the parents were also made. According to Judith (2003) the poverty of the household level discourage parents from enrolling their children in school and withdrawal them once the demand of fees is impossible to meet. It could also be the inability of the Government to provide adequate funding for school infrastructure or for the running of schools.

The school transformed society, with an aim of promoting new way of life. Girl-child education is part of that and providing education to girls is one of the best investments in developing country (Kelly, 1999). The child without access to education will be deprived of their human rights and be prevented from improving their talent and interest in most of the basic way. (UNESCO 2003). Mercan (2010) explore whether the perception show significant difference with respect to

certain background variable. Recent schemes by government have also made girl's education possible in rural areas. A study conducted by Miller (2007) unfolded the fact that the current schemes such as midday meals and scholarships are effective forms of alleviating the added cost of sending a girl to school. The study suggested that, although government endeavors at universalizing education has resulted in creating mass awareness and positive response towards schooling of girl education, there is a lot of scope for improvements. In the same context, a study conducted by Dreze and Kingdon (2001), suggested that there is a 50% reduction in the proportion of girls due to the provisions of mid-day meals. In a rigorous literature review conducted by Unterhalter *et al* (2014), it was found that the enhancement of girls' education for a particular society depends on the following factors:

- *Extent of a climate in support for girls' schooling in the place*
- *The existence of complementary legal and regulatory framework*
- *The State capacity to implement the policy and engage the widest range of stakeholders.*

Girls in developing countries disproportionately drop out of schools, particularly when they reach the age of puberty, which some attributed to the lack of sanitation facilities for menstruating girls. (Herz & Sperling; 2004, Moojiman *et al*; 2005, Sommers; 2010). Therefore, the basic infrastructure facilities which are linked to the economic and social benefits of the girls is considered to be a factor influencing the perception of the parents in letting a girl child continue her education in such places. Investment in the health of a child can improve educational outcomes (Miguel & Kramer; 2004, Bleakley; 2007, Weil; 2007), though health needs often differ dramatically by gender and age. So, in such a case we include another parameter that is the presence of proper sanitation facilities that can increase the amount of enrollments and reduce the number of dropouts of the girl children from the schools. In the year 2000, the Indian Government began promoting Universal Primary Education through Sarba Siksha Abhiyan (SSA), and it was hypothesized that the absence of basic needs will prevent the traditionally disadvantaged children from going to schools.

IV. OBJECTIVES OF THE STUDY

The following objectives are formed for the study

1. To derive if there is any presence of traditional stigmatic belief hampering the enrollments of girl child in schools.
2. To examine the influence of the regulatory provisions in contributing to a positive perception of the parents towards educating a girl child
3. To study the perception of the guardians regarding the sanitary facilities available in the schools.

V. SCOPE & LIMITATION OF THE STUDY

The study unfolded quite a number of views on the theme. The study thoroughly concentrated on the girls' education part. The limitation of the study was basically due to location aspects and time constraints.

VI. RESEARCH METHODOLOGY & DATA

The study is basically descriptive in nature as it seeks to describe the attitude of the selected units regarding the girls' education in the place. The study is limited to the area Norshingpur of Cachar District in Assam. The sources of data are primary in nature. The data collected are in the form of responses by the parents to the questions asked in the interview with the help of structured schedule. The researchers had to resort to snowball sampling. Here, the researchers got the reference of the first selected unit from a known source. The reference regarding the second unit of study was given by the first and the process went on. The type is basically non probabilistic in nature. A total of 50 (fifty) parents who send their children to the schools were selected in the sample and are studied.

A structured schedule based on the objectives was developed to collect data. Interview process was also adopted for the study. The data collected were analysed and Likert Scales were used. Weighted AM is used for better understanding of the responses.

VII. ANALYSIS OF DATA & MAJOR FINDINGS

TABLE 1

SI No	Factors	Strongly Disagree	Disagree	Neither Agree Nor Disagree	Agree	Strongly Agree
1	Boy Child importance in Education	14	12	13	5	6
2	Learning of Girl Child limited to only household	18	16	10	4	2
3	Education of Girls create social problems	13	15	10	9	3
4	Importance of Mid-day meals in Educating a Girl Child	6	10	21	8	5
5	Quality of food in Mid Day meal	0	3	13	22	12
6	Receiving Scholarship is important	2	6	21	13	8
7	Scholarship and Satus	0	0	9	25	16
8	Sanitation Facility	0	0	6	26	18

The data collected was according to the objectives framed to be achieved in the study. Therefore, the findings of the research correspond to purpose of the study which are highlighted in the following points:

- It was found that in recent times families are least discriminating regarding the gender of child in the family. There were found families that did not even have a single boy child and provide all the facilities to a girl child that includes education as considered to be the prior and most important needs among all. It was quite encouraging to find a 100% enrollment of girl child in the schools in such rural place of Norshingpur.
- The intention of the families of providing higher education to the girl child also shows that the families foresee a job career for the child rather than confining herself to the household activities of the in-laws family in the future. The parents opine that the chances that a girl has in becoming successful in the future if she obtains education is similar to a boy child. In fact, the conservative attitude of the families in degrading the intellectual capacity of a girl is found to diminish in the recent times. The acceptance of the fact that females can also contribute in building the nation with a proper intellectual upbringing is just an indication of the shift in the paradigm in the social setup.
- The fact that the parents are less hesitant regarding sending their girl child to the schools, which have children coming from diverse backgrounds, is a positive indication towards ensuring a bright future for a girl child outside the life that she spends in the family of her in-laws. The stigmatic belief a girl should be more involved in household activities is undergoing a change and therefore we can hope of a future where girls are financially independent and intellectually empowered.

The above three points are just revealing of the fact that even in rural areas people are getting more and more aware regarding the benefits of education and therefore the traditional attitude which was negative towards educating a girl child is becoming non-existent. These findings serve the purpose of fulfilling the first objective of the study.

- The Government provisions such as offering the midday meals and providing scholarships to students who are meritorious have encouraged poorer families to dream of good education to their girl child. Although, in the study it was found that the offering of midday meals is not such a significant factor, there is little doubt of the fact that it saves the cost of family to feed a child in the afternoon. The families were also neutral in expressing their opinion regarding the quality of food offered during the midday meals. Since, most of the families were poor, therefore they are not concerned about the quality as it is often sarcastically said that 'beggars are not choosers'
- The provision of scholarship has worked as a dose of positivism in furthering the education career of a girl child. As we find from the responses that such provision has not only reduced the financial burden of the family in meeting the cost of higher education of a girl child, but it has also ensured an enriched status for the family in the locality. The provision ensures that a potential student is not deprived of education. Availing the provisions by the potential

students is an investment by the Government and a nation building exercise which ultimately results in aggravation of the nations' welfare by utilizing skills and talents of the country.

So, it can definitely be inferred that Government has been working actively and vehemently for providing education to the members of the country, irrespective of the gender, caste, religion, affluence and place of origin. The Government provisions have left a overwhelming influence in the educational culture of the country, and is expected to add on to the intensity of the influence. The above two points serves the second objective of the study.

- There exists an intrinsic hesitation among the parents to send their girl child to a school not possessing a separate sanitation facility for the girls. A girl child reaching the age of puberty would definitely have a tendency to be apathetic to schools having a common sanitation facility. The fact was confirmed when parents were asked regarding their agreement on whether they believe that separate sanitation facilities should be provided to the girls. The schools respond to that and most of the schools in the locality set up separate sanitation facilities for the girls.
- Although the cleanliness surrounding the school still needs work to be done. The discipline and supervision of the top authority are responsible factors in ensuring clean sanitation in the schools. The polluted surrounding not only is detrimental to the health of a child but it also adds to the loss of a pristine and sacred environment to be maintained in an educational institute.

Therefore, the study shows that there is a serious need to look at the sanitation facilities available in the school. The sanitation facilities are not up to the mark and the school authority cannot afford to be reluctant about the matter. The findings correspond to the third objective of the study.

VIII. CONCLUSION

The study claims value with regard to its contribution to the regulatory bodies in implementing educational policies at a mass level. It has successfully unfolded the fact that girls are no longer destined to be confined in the household activities; rather the perspectives have been changing in the positive side of the continuum. In today's context, education is regarded as a basic need for children even for girl child dwelling in the remote place like Norshingpur. The Government has come up with provisions and regulations that are in support of the cause, and financial unfeasibility is no longer a hindrance. It is high time that schools responded in providing a support by ensuring the maintenance of a minimum quality. As from the study it was revealed that the sanitation facilities in the schools of the selected place do not meet the expectation, therefore the onus is on the shoulders of the management of the schools to deal with the issue. But the most positive and encouraging fact among the lot is the slow and gradual change in the conservative attitude of the parents and people, even in remote areas. Although it is not wise to generalize the findings to all places of the country, but is definitely a reflection on the prospects of a bright future for Barak Valley. A rich historical background characterizes India in relation to the contribution of females towards nation building. In fact, a look at the mythology would make us learn the strength and power that Goddess Durga possessed in combating against the demons. The Indian philosophy emphasizes the debating power of Gargi, who is known as the lady scholar against the learned Brahmins in the Kingdom of Janaka. The history takes us back to the sacrifices of Rani Lakshmi Bai and the intellectualism of Sorojini Naidu. In such a country, an indifferent attitude in nurturing a girl child should be far from accepted. The anatomical, emotional and other differences would exist, but that does not give a license for the male section of the society in downing the females. Rather, an attitude which incorporates the differences and promotes the co-existence of both the sections would mark development for a country.

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A STUDY ON OVERALL IMPACT OF TRAINING AND DEVELOPMENT ON JOB PERFORMANCE, MORALE OF EMPLOYEES AND TO REDUCE THE EMPLOYEE RESISTANCE TO NEW TECHNOLOGY

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ABSTRACT

Training and development of employees in an organization is one of the fundamental operating functions. An employee training is a process, which helps the employees to learn the skill, knowledge, behavior and attitude that is required to carry out his job effectively. The purpose of this study is to identify skill needed by future trainees and to develop those specific skills and knowledge among the trainees. Training always plays a very important role to the employees because of greater job security and opportunity for advancement. This study titled "A study on the impact of training and development on employees at Auma India Pvt. Ltd" is to know and measure the skill, knowledge acquisition and attitude of the employees at Auma India Pvt. Ltd, Peenya that in turn helps the employees to perform better. This study also helps the company to analyze its quality work in the industry and to find a way to improve its existing level to its excellence level.

KEYWORDS

training and development, job performance, morale, employees, employee resistance to new technology.

1. INTRODUCTION

The main objective of this article is to identify impact of training towards the newly appointed employees and on the existing employees at the organization. The total sample of 100 is considered and the data is collected through the primary data in the form of questionnaires. Suggestions have been made by using Chi-square statistical tool. The project report gives an overview of the organization functions, service profile and findings and suggestion for the future training program in the organization

2. STATEMENT OF PROBLEM

To find the overall impact of training and development on job performance, morale of employees and to reduce the employee resistance to new technology

3. OBJECTIVES

1. To study the change in behavioral pattern of the employees due to training
2. To study the change in performance and morale of employees after training programme
3. To examine the effectiveness of training in overall development of skills of workforce

4. NEED FOR TRAINING AND DEVELOPMENT

Training is not only important from the organization point of view but also for the employees. Training is valuable to the employees because it will give them greater job security and opportunity for advancement.

The need of training arises in an enterprise due to following reason: -

- Changing technology-technology is changing at a fast pace. The workers must learn new technology to make use of advanced technology.
- Quality conscious customers—Customers requirement keeps on changing.to satisfy customers' quality of products must be improved.
- Greater productivity-it is essential to increase productivity and reduce cost of production for meeting competition in the market.
- Stable workplace- training creates a feeling of confidence in the minds of workers. It gives them security at workplace.

5. SCOPE OF STUDY

The development of any organization depends on the employees. For organizational productivity training and development assumes great significance

- The study is conducted to know the level of knowledge and skills given to the employees in the organization
- This will help the management to know the satisfaction levels of employees and they can take measures to increase productivity.

6. METHODOLOGY

The value of any research design lies in its methodology, which is way to systematically solve research problems

RESEARCH DESIGN

This study is conducted for definite purpose with the help of a structural and personal interview to gather primary information as much as possible; hence the most appropriate research design for the study is descriptive research design

DATA COLLECTION

Survey questionnaire method is used for the purpose of data collection

SOURCE OF DATA

Primary data: it is the internal data about working of HR department gathered from the organization

- Interview
- Data collected through feedback forms by the employees

Secondary data

- Magazines, journals, brochures, etc.
- Websites of the company
- Books

SAMPLE SIZE

The number of respondents is 100 who are employees of Auma India. Sample is a part of the group the main goal is to make inferences about a population from a sample

SAMPLE METHOD

Researcher used Random sampling method for this study

7. LITERATURE REVIEW

- **Paul Lewis, William j Roth well, lindamillar, 14.2010.** This article says that the effective use of human resources is seen as a perquisite and the training and development of employees is important. The growth of training and development as an academic subject reflects its growth in practice
- **Department of psychology and institute of molecular biology and sackler institute for developmental psychobiology –new york; august 9 2005.** This article tests training effects on people of different age group.
- **Lane Randale California museum of science and industry, los angels-**This article identifies useful and feasible methods to meet training and development needs. Finally, it suggested that informal science learning is understood as a collective entity. Main focus is on learning activities
- **L.b.oio and D.A olanivan, 2008.** This article examines the impact of training and development on the performance of home economics teaching schools importance. The study revealed among others that and development has a positive impact on the performance of home economics teacher
- **Braid, liayd, grith Darrell, john; 2003.** This article focuses on concept that training and development strategies require remodeling due to globalization and fast moving business. In order to enhance performance with less cost and development, certain framework has to be well defined and changed
- **Ann. P. Barte.** This article explains how to help organizations retain productive workers, maintain high employee morale, and foster understanding and harmony among culturally diverse workers, and it says diversity training has become one solution, with widely different results.
- **Campbell, John P.** Developments in learning, motivation, and attitude theory are discussed, with particular attention being paid to the theory and techniques of behavior modification and to General Systems Theory. Computer-assisted instruction and methods for training disadvantaged applicants are discussed.
- **NEILL MARSHALL** is lecturer, in the Centre for Urban and Regional Development Studies at the University of Newcastle upon Tyne, England. Cecilia Wong is lecturer in the department of planning and landscape at the University of Manchester, England. This paper examines the impact on firms of the management training and development provided as part of the Business Growth Training
- **Jane Bayan Cardiff Business School, UK** This article explains the relationship between training and growth in small manufacturing businesses. Research on training undertaken at the macro-level highlights a series of earnings and productivity returns; understanding of the relationship between training and performance is complicated.

8. LIMITATION OF THE STUDY

- The organization is very large and consists of various departments. So all departments could not be covered in sample size
- The time limit is considered to be a big constrain
- Certain information which is confidential is not provided by the company

9. ANALYSIS AND INTERPRETATION

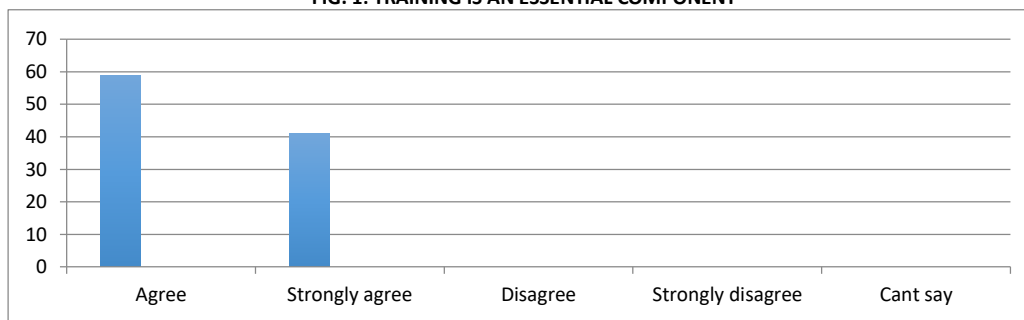
TABLE 1: TRAINING IS AN ESSENTIAL COMPONENT

Opinion	No of respondents	Percentage
Agree	59	59%
Strongly agree	41	41%
Disagree	0	0%
Strongly disagree	0	0%
Cant say	0	0%
Total	100	100%

Observation

The above table shows clearly that out of 100 employees, 59% employees feel that training is an essential component, 41% of employees strongly agree that training is an essential component.

FIG. 1: TRAINING IS AN ESSENTIAL COMPONENT



Inference

It can be inferred that it is according to the perception of the different individuals with different background. From the above it is clear that 100% of employee feels training is an essential component, since it improves their performance level

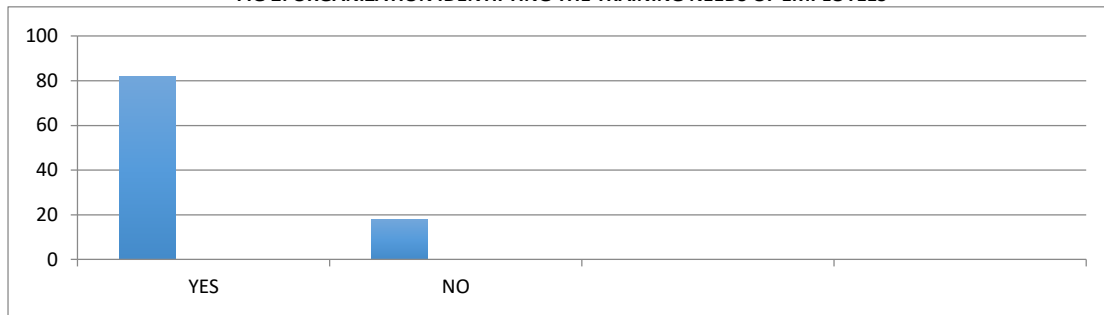
TABLE 2: TRAINING NEEDS FOR THE EMPLOYEES ARE IDENTIFIED BY THE ORGANIZATION

Opinion Op	No of respondents	Percentage
Yes	82	82%
No	18	18%
Total	100	100%

Observation

From the above table it is clear that out of 100 respondents, 82% of employees feel that organization identifies the training needs and 18% of employees feel organization does not identify training needs for the employees.

FIG 2: ORGANIZATION IDENTIFYING THE TRAINING NEEDS OF EMPLOYEES



Inference

As individual perception differs from each individual the training need also differs. From the above it is clear that the organization provide significant importance to identify the training needs of the employees.

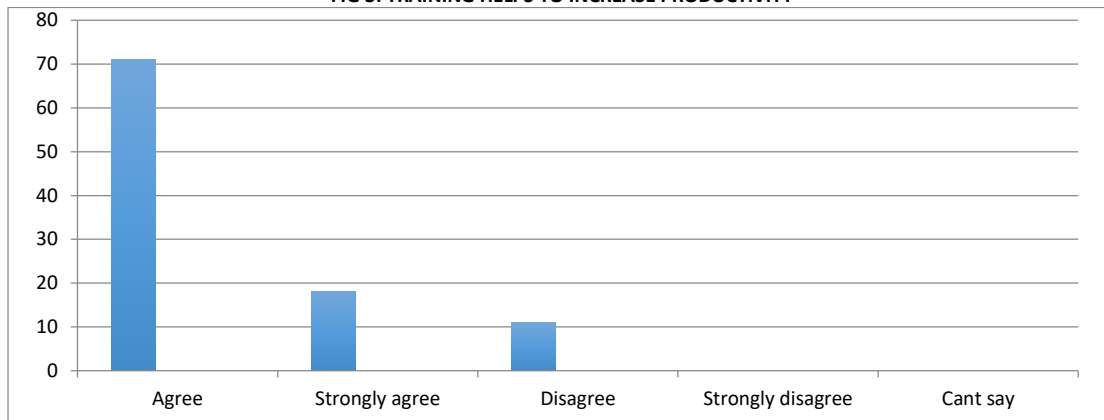
TABLE 3: TRAINING PROGRAM HELP TO INCREASE PRODUCTIVITY

Opinion	No of respondents	Percentage
Agree	71	71%
Strongly agree	18	18%
Disagree	11	11%
Strongly disagree	0	0%
Cant say	0	0%
Total	100	100%

Observation

From the above table it is clear that out of 100 employees, 71% employees agree that training is an essential component, 18% of employees strongly agree that training is an essential component and 11% of employees disagree with the statement that training helps to increase productivity of employees.

FIG 3: TRAINING HELPS TO INCREASE PRODUCTIVITY



Inference

As employees handle different work in the company the need for training varies from individual and as well as it also depends on the individual perception. From the above data it is clear that 70% of employees feel that training increases productivity

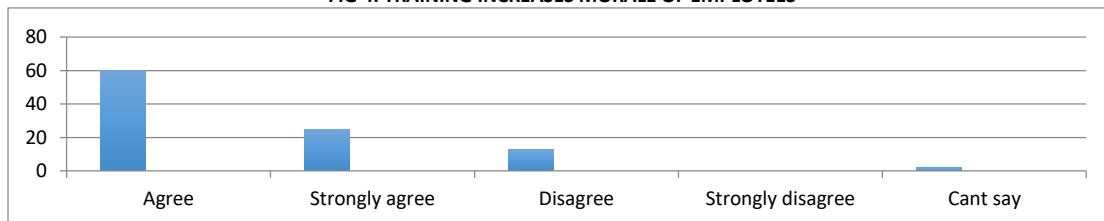
TABLE 4: TRAINING PROGRAM HELPS TO INCREASE MORALE

Opinion	No of respondents	Percentage
Agree	60	60%
Strongly agree	25	25%
Disagree	13	13%
Strongly disagree	0	0%
Cant say	2	2%
Total	100	100%

Observation

From the above table it is clear that out of 100 employees, 60% employees agree that training helps to increase morale, 25% of employees strongly agree and 13% of employees do not agree that training increases morale.

FIG 4: TRAINING INCREASES MORALE OF EMPLOYEES



Inference

From the above data it is clear that training has an impact on the morale of the employees. More than 95 % employees agree that training has impact on morale of employees.

ANALYSIS OF CHI-SQUARE

Ho: Training and development program does not help to increase morale

Ha: Training and development program help to increase morale

N: Total frequency= 60+25+13+0+2=100

Np: 100/5=20

TABLE 5

Opinion	No of respondents	Percentage
Agree	78	78%
Strongly agree	21	21%
Disagree	0	0%
Strongly disagree	0	0%
Cant say	1	1%
Total	100	100%

TABLE 6: AFTER THE TRAINING PROGRAM PERFORMANCE OF EMPLOYEES HAS INCREASED DRASTICALLY

Parameters	O	E	(O-E)	(O-E) ²	(O-E) ² / E
1	60	20	40	1600	80
2	25	20	5	25	1.25
3	13	20	-7	49	2.45
4	0	20	-20	400	20
5	2	20	-18	324	16.2
Total	100				119.2

Where O= observed frequency and E= Expected frequency

DF (V)=5-1=4

Chi²(0.05) (Tabulated value)=9.488 < Chi² (Calculated value)=119.2

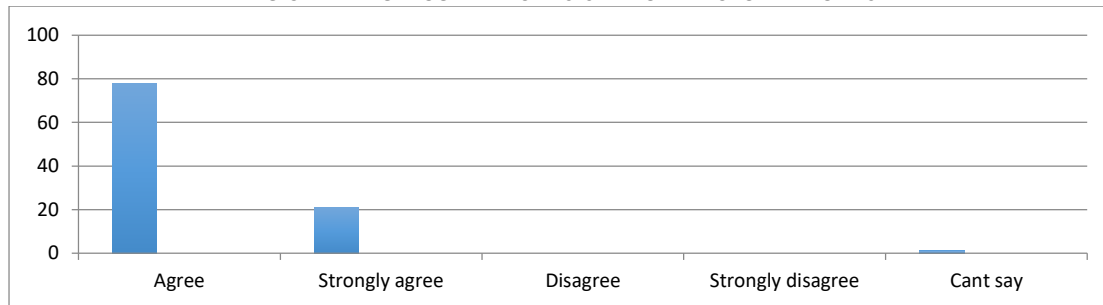
Inference

Since calculated value of Chi² is greater than the tabulated value, it is considered to be significant. There is significance difference and Ho is rejected at 5% level of significance and thus can be concluded that training program help to increase morale.

Observation

From the above table it is clear that out of 100 employees, 78% employees agree that training helps to increase morale, 21% of employees strongly agree that training has resulted to drastic increase in performance of employees.

FIG. 5 TRAINING PROGRAM INCREASES PERFORMANCE OF EMPLOYEES



Inference

Performance of employees differs from one employee to another on the basis of individual capability. From the above data it is clear that large number of employees feel that training helps them to increase their performance

ANALYSIS OF CHI-SQUARE

Ho: Training and development program does not help to increase performance of employees

Ha: Training and development program help to increase performance

N: Total frequency= 78+21+0+0+1=100

Np: 100/5=20

TABLE 7

Parameters	O	E	(O-E)	(O-E) ²	(O-E) ² / E
1	78	20	58	3364	168.2
2	21	20	1	1	0.05
3	0	20	-20	400	20
4	0	20	-20	400	20
5	1	20	-19	361	18.05
Total	100				226.3

Where O= observed frequency and E= Expected frequency

DF (V)=5-1=4

Chi²(0.05) (Tabulated value) = 9.488 < Chi² (Calculated value) = 226.3

10. FINDINGS

With the help of analysis made, the following findings are obtained.

- Large number of employees find that there is healthy environment at the work place
- Modern method of training is provided to employees as per their needs
- Maximum employee undergoes training program when they are newly recruited, which may be because the training needs differ from one individual to other and from one job to other
- From the data it can be inferred that all the employee feels that training is an essential component because it helps them to increase their performance level
- Utmost number of employees are satisfied with the training and development programs given to them

11. SUGGESTIONS

- Advanced training methods is required for the production department
- Training program design are required to be more effective
- Training is a continuous process i.e. it should be conducted at regular intervals
- Training duration should be less and the details explained should be precise and accurate
- There must be structured training program in addition to general training

12. CONCLUSION

Training the employees in an organization is not a great deal but identifying which area an employee has to be trained is important because of rapid changing market and technology. Training helps the employees to adopt with the work culture of the organization. Without training newly recruited employees may find it difficult to survive in the future

In this study it was analyzed that the employees in the organization is satisfied with the training program conducted.

The training program not only helps the employees to know about their job but also to be more creative and proactive in their work which results in the organizational development.

Training helps employees to improve their productivity and also enhances their present skills. It also helps employees to develop their inter personal and intra personal skills and even to improve their quality control techniques. Training has to be given to every employee after identifying his or her needs. Hence training is very useful to employees.

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MILLING STUDIES OF PULSES USING DIFFERENT PRE-MILLING TREATMENT OF PIGEON PEA (CAJANUS CAJAN)

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ABSTRACT

Pigeonpea (Cajanus cajan (L.) Millspaugh) popularly called as tur or arhar, is second most important pulse crop of India due to its several unique characteristics. It is the most versatile food legume with diversified uses as food, feed, fodder as well as fuel. It has been recognized as a valuable source of protein particularly in the developing countries like India where majority of the population depends on the low-priced vegetarian foods for meeting its dietary their reliance on vegetarian diets besides limited buying capacity of more than 27% people living below the poverty line. This research relates to "Performance Evaluation Of CFTRI Dal Mill For Pigeon Pea" and aims to increase the recovery of dal. For experimentation, Arhar of variety T-21 was selected, as it is considered to be the one of the most popular variety in Madhya Pradesh. Examination of physical properties like moisture content, angle of repose, true density and coefficient of static friction of Arhar was done after treating it with moisture, NaCl & NaHCO₃ followed by sundrying and grinding in the CFTRI Dal mill. Experiments show that grains soaked for one hour gave higher dal recoveries than 30 min and 2 hours soaked grains. In general, there was increase in dal recovery with the increase in moisture content but it was observed that it falls beyond 10% moisture content. NaCl treatment of grain of 6% concentration gave highest dal recovery when the grains were milled at 10% moisture content. Also, the generation of powder and broken was minimum at 6% NaHCO₃ and 10% moisture content of grain. This research led to the result that at 6% NaHCO₃ concentration & 10.5% moisture content the recovery of dal is highest.

KEYWORDS

pigeonpea, CFTRI Dal mill, treatments, milling, dal recovery.

INTRODUCTION

Pulses occupy a prominent place in the agricultural economy and play a remarkable role in agricultural productivity. Pigeonpea (*Cajanus cajan* (L.) Millspaugh) popularly called as tur or arhar, is second most important pulse crop of India due to its several unique characteristics. Pigeon pea is an important pulse crop of the world belonging to the natural order leguminosae. Pigeonpea is grown as a sole as well as intercrop. Pigeonpea has a long history of research as any other pulse crops in the country. It started as early as in 1905 when imperial Agricultural Research Institute (IARI), Pusa made a modest beginning by taking up research work on the crop. Similar research programmes particularly for purification of the existing heterogeneous land races were initiated Bombay (Maharashtra and Gujarat) and Central India (Madhya Pradesh). However, systematic and concerted research on Pigeonpea started with the establishment of the All India Coordinated Pulses Improvement Project (AICPIP) in 1967. Realizing the importance of the crop, the AICPIP was trifurcated to work exclusively on Pigeonpea with seven research centers in the country during the VIII Plan. The All India Coordinated Research Project on Pigeonpea has stated functioning in 1995 and presently has a network of 22 centers across the country. These research centers have been playing a crucial role in pigeon pea improvement not only as testing centers but also as major contributors of technologies for testing across the country. With initial success in exploiting genic male sterility based hybrid at ICRISAT, the country took up a mission mode project on hybrids in major crops including pigeon during 1989, this project took off at ten centers including, IIPR, IARI, PAU, GAU, PKV, TNAU, RAU, UAS Bangalore, HAU and NDAU&T with major emphasis on development of genic male sterility based hybrids, identification and diversification of cytoplasm male sterility system and its fertility restorer lines, and productive hybrid combinations.

REVIEW OF LITERATURE

This chapter deals with review of research work so far carried out in the pulses milling field. The research so carried in pulses milling is being put under major heads namely: - drying of pulses, loosening of husk, milling and separation.

• LOOSENING OF HUSK

Different treatments have been suggested for the preconditioning of pulses before milling to loosen the adhesive bond between the kernel and the husk. The CFTRI technique (Kurien et al., 1968) eliminated oil application completely while loosening of husk was effected by successive heating and cooling of pulses. The pulses grains were subjected to heated air (120-160°C) for a specific duration of time. The grain temperature reached between (65-75°C). Later the grains were cooled by forcing ambient air through the grains.

The successive heating and cooling was reported to be effective in destroying the adhesive bond between the husk and the cotyledons. More than 95 percent of Arhar was dehusked in one pass through dehusking roller machine.

Krishnamurthy et al., (1972) reported that 'sirka' can be used in place of oil in Arhar milling. It was observed that the recovery in this process was more or less same as in case of oil application.

Patil (1977) compared dry and wet milling of Arhar by laboratory emery roller (Satake rice polisher) for milling effectiveness, cooking quality and swelling index. Different premilling treatments were attempted such as:

1. Soaking of 200g sample (10.86% db) in 600ml preheated water at room temperature, 60 °C, 75°C and 90°C for the durations of 24 -25 hours steeping at room temperature and 0.25-4 hours for hot water steeping followed by sun drying (2-5 days) up to 14% db.
2. Dry conditioning at 80°C, 100°C and 120°C for 3.45, 7.25 and 20.50 hours.
3. Water steeping at 60°C, 75°C and 80°C for 0.5 and 1 hour followed by roasting for 5 minutes and sun drying for 2 days.
4. Soaking in NaOH solution (3%) for 0.5 to 1 hour at room temperature.

The highest milling efficiency (85%) was obtained by steeping at 80°C and roasting. However, wet methods of treatments brought improvement in milling quality, the cooking quality was lowered.

The loosening of Arhar husk by sand roasting was tried by Karsolia (1978). The roasting was carried out at temperature of 75°C to 125°C for 1 to 10 minutes. The highest milling efficiency (95%) was obtained by roasting at 125°C for 5 minutes. It was reported that cooking quality of Dal was similar to commercially available dal, maximum swelling index was 3.12 and the water uptake was maximum after 50 minutes of cooking time.

In Coimbatore, Arhar was subjected to different hydrothermal treatment combinations before milling (Annual Report, Coimbatore Centre 1979). It was observed that 2 hours soaking followed by 1 hour sun drying gave the best milling results.

Kurien (1980) found that the gumminess of pulses, which holds the husk, is due to caloctomanus disaccharide, gluconic acid and glycoprotein.

Reddy (1981) after trials with different combinations of treatments observed that the pulses at 10.5 percent moisture, dry basis gave highest milling efficiency (67.23%) when treated with 1 N Sodium Bicarbonate solution and milled in a concave cylinder dehusker having 6 mm and 4 mm as entrance and exit clearance respectively with a cylinder speed of 400 rpm.

Singh and Narain (1984) tried several chemical treatments and found that Arhar sample soaked in 6 percent Sodium Bicarbonate solution for 1 hour and subsequently dried to a moisture content of 10 percent gave maximum Dal recovery with minimum broken and powder, maximum dehulling was obtained at moisture 8% db.

Khan and Phirke (1990) reported that with application of medicinal oils such as neem and karanj oil, the pulses can be safely stored for a year or more while if edible oils such as groundnut or safflower were applied, a safe storage life up to 150 days could be achieved.

• MILLING OF PULSES

A few attempts have been made to improve the milling technology and the machines used for milling. It has been compiled in following text.

Singh (1976) reported the use of rice polisher (satake make) for shelling and splitting of Arhar.

Sagar and Singh (1978) developed a new concave cylinder dehusker for dehulling of pulses. It was reported to have cylinder of 38cm length with knurled surface and the concave made from 16 gauges M.S. Sheet. It was found to give satisfactory dehulling efficiency.

Rao (1980) studied the force deformation characteristics of Arhar (T-21) and found the force required for splitting. It was observed that the ratio between force for split and force for rupture increased with increase in moisture of the grains.

Siripurapu et al. (1980) reported milling efficiency of domestic flour mill increased with increase in feed rate when clearance between two stones is more than the maximum size of pulses. Maximum efficiency (73%) was reported for arhar in one pass at the feed rate of 29 kg/h at 6.05 m clearance.

JBCRI (1982) modified the traditional domestic flour mill and used it for Dal milling successfully.

Teckchandani et al. (1982) tested different machines viz, stone roller (15" ϕ X 35", 400 rpm, 7.5 hp), URD Sheller (30" ϕ X 4" thick, 900 rpm) and burr mill (16" ϕ , rpm, 10 hp) for bengal gram (7G-62, husk content 13.2%). The pulses were steeped in water for 1 minute, dried in sun for a day and milled. Highest yield was obtained in burr mill in one pass which the URD Sheller had the lesser broken percentage (6%) than that of burr mill (16%).

Kumar et al. (1983) reported Dal yield of 75 percent by milling Arhar in concentric double cylinder machine for dehulling and splitting of Soybean. The cylinder concave dehusker with 6 mm entrance and mm exit clearance running at a speed of 300-400 rpm gave the best results in terms of dehulling efficiency (83.9%) and minimum broken percentage (less than 3%) at a grain moisture between 12-15 percent.

Singh D. and Sokhanganj (1984) reported milling of Arhar by concave cylinder dehusker and also suggested treatment to achieve best milling results. He suggested the treatments of acetic acid (20-100% pure solution,) Sodium Bicarbonate (0.2 to 1 N) and mustard oil (0.2 to 1% of the rain mass.) The treated samples were then stored for 24 hours and then milled at moisture content range between 6.7-16.4% db. The best results in terms of milling efficiency were obtained for concave clearance 5 and 1.75 mm at inlet and outlet respectively, at speed of 300-500 rpm and at grain moisture content of 8.9 percent db.

Sahay et al. (187) observed that optimum carborandum number of dehulling roll for dehulling Arhar, Moong and Urd was 30, 40, and 24 respectively.

• SEPARATION

Teckchandani (1986, 1988, 1990) developed on Arhar – GOTA separator based on the principle that GOTA surface was covered with natural gum layer while the whole arhar grain did not have any such gum layer. Experiments revealed that slightly moistened GOTA stuck to a textured cloth while whole Arhar grain did not. This principle combined with the action of centrifugal and gravity force of moving flat belt was employed to separate out GOTA from Arhar – GOTA mixture. Removal of GOTA after each stage of dehulling increased over all Dal recovery by 3- 3.5 percent.

Kurien (1987) used differences in bouncing property of Arhar and gota for separation of gota from Arhar – GOTA mixture.

Teckchandani (1988) pointed that during milling of Arhar, splits are separated out at intermediate stages due to difference in physical properties. However, GOTA (unsplit dehulled grains) is not separated out from whole Arhar –GOTA mixture due to similar physical properties. Due to this GOTA along with Arhar is repeatedly passed through dehulling roller till 95 percent of Arhar is dehulled. The undesirable dehulling passes remove a portion of kernel mass of GOTA and thus increase the overall milling losses.

DEVELOPMENT OF MINI DAL MILLS

Singh et al. (1984) developed an industrial scale Dal mill with a rated capacity of 400 kg/h.

Kurien (1987) developed a simple hand operated pulses dehulling machine suitable for Arhar and bengal gram with a capacity of 35 and 65 kg/h for first and second pass of milling respectively.

Sahay et al. (1988) reported to have developed a mini abrasive roller machine for milling pulses at a capacity of 100 kg/h.

Phirke (1990) developed a mini Dal mill operated by 1 hp electric motor. It was reported to suitable for villages.

• ORIGIN, HISTORY, BOTANICAL DESCRIPTION AND PRODUCTION

India ranks first in both area and production of all important pulses grown viz. pigeon pea, green gram, black gram etc. Pigeon pea (*Cajanus cajan* (L) Mills. synonyms: *Cajanus indicus* Spreng) also known as arhar, tur, redgram, congopea etc. is one of the most important pulse crops cultivated in India. Its grains are highly nutritious and rich in protein (21.7%), Carbohydrates, Fiber and minerals.

Husk contain in pigeon pea 13-15%. The Botanical name of Arhar is *cajanus cajan*. Its chemical composition and structure are: -

Fat - 1.7 %

Mineral -3.5%

Moisture -10.35 %

Protein - 24.19%

Ether extract -1.89%

Ash - 3.55%

Crude Fiber - 1.01%

Carbohydrate - 59.21%

Alam et. all (1975) surveyed sample Dal mill in Jabalpur, Sagar, and Katni studying the processes and equipment use and level of Dal recovery in the existing mills. They found that recovery of Dal in case of Arhar (red gram), Urid and Moong (green gram) and Batri (pigeon pea) is comparatively low and it should be possible to improve recovery by 5-10% through improvement in dehulling device and or process. They also observed that the Dal mills in the area operate very dusty and for want of suitable dryer these mills are virtually closed in the rainy season and bad weather.

IMPORTANCE OF THE STUDY

Pigeonpea, is the most versatile food legume with diversified uses as food, feed, fodder and fuel. It has been recognized as valuable source of protein particularly in the developing countries where majority of the population depends on the low-priced vegetarian foods for meeting its dietary their reliance on vegetarian diets besides limited buying capacity of more than 27% people living below the poverty line. Like any other pulses, supplementation of Pigeonpea with cereal based diets is considered one of the possible solutions to alleviate protein energy malnutrition. Pulses are often quoted as cheap and rich protein source for predominantly vegetarian and a poor man where about 15-30% of daily proteins are supplied from edible legumes or pulses. In recent years the demand of pulses has increased due to increase in population.

India accounts for 78% of the global output with current production of 2.21 million tones from 3.38 million ha recording average yield of 653 kg/ha. Pigeonpea production has gone up in the country from 1.98 million tones during the triennium of 1980-82 to 2.40 million tones in 2000-02 because of area expansion from

2.86 to 3.46 million ha during the period. The country has recorded positive growth of 1.72% annually in Pigeonpea production between 1981 and 2001. If it was the area expansion between 1981 and 1991 as the major factor for positive growth, then yield advance was turned out to be the main force during the second decade (1991-2001).

During 2003-04, Pigeonpea was grown on about 3.53 million ha area with 2.43 million tones of production, which represent 14.44 and 15.95% of the national pulse acreage and production, respectively. Pigeonpea is the second most important pulse crop in the country with production base concentrating in Maharashtra, Uttar Pradesh, Karnataka, Gujarat, Madhya Pradesh and Andhra Pradesh. Together these states contribute 83.3% of the production from 86% of the area. Maharashtra alone accounts for 35.5% of the national Pigeonpea production from an area of 31.4%.

The above facts clarify the importance of Pigeonpea in Indian economy and society. This study will help increase its productivity of Pigeonpea which will positively affect the greater causes.

OBJECTIVES

1. Performance & Optimization of pre conditioning treatment and operational parameters for maximum recovery.
2. To study the effect of pre conditioning treatment on dehusking, gota formation, broken percentage and percentage mealy waste of pigeon pea.

HYPOTHESIS

Alam et. al (1975) surveyed sample Dal mill in Jabalpur, Sagar, and Katni studying the processes and equipment use and level of Dal recovery in the existing mills. They found that recovery of Dal in case of Arhar (red gram) Urid and Moong (green gram) and Batri (pigeon pea) is comparatively low and it should be possible to improve recovery by 5-10% through improvement in dehusking device and or process. They also observed that the Dal mills in the area operate very dusty and for want of suitable dryer these mills are virtually closed in the rainy season and bad weather.

To get the exact picture of how exactly a dal is dehusked and split into two and which of the operations give better dal milling efficiency and which one's saves losses, thus domestic dal milling methods adopted by various regions where studied. The steps in which dal milling is performed by various region of India like Village— Sahajpur, Tahsil- Patan, District- Jabalpur:

- Arhar
- Washing of Arhar
- Sundrying for 1 day
- Oil mixing @ 5 gm per kg.
- Grinding in domestic stone grinder
- Water soaking
- husk and
- Sun drying
- Haldi in dal
- Separation of Husk and Milled Dal
- Grinding
- Haldi + oil mixing in dal

RESEARCH METHODOLOGY

This project, as earlier explained relates to "Performance Evaluation Of CFTRI Dal Mill For Pigeon Pea" and aims to increase the recovery of dal.

For experimentation, Arhar of variety T-21 was selected, as it is considered to be the one of the most popular variety in (M.P.).

After going through the review of literature related to research done on this aspect of pulses and Arhar, following treatments were selected.

PRETREATMENT

Arhar pulse was cleaned and passed through CFTRI Dal Mill and grader sieve in Laboratory Sieve Cleaner –cum – Grader to get uniform size arhar grains. The treated grains were milled at 6%,8%,10% and 12% moisture content. In general there was increase in dal recovery with the increase in moisture content. However, it falls beyond 10% moisture content. The highest amount of dal was obtained at 10% moisture content the production of powder and broken were also increased with the increase in concentration. These observations are true in both the case of chemicals used i.e. NaCl&NaHCO₃ for treating the grain respectively. After draining and sun drying for whole day, moisture content was determined with Universal Moisture Meter. Sample of 1.5 kg weight each were subjected to milling. The milling was done in CFTRI Dal mill.

The milled sample was collected in one lot and its different ingredients were separated. The ingredients were – Husk, Dal, GOTA mixture and broken kernels.

All these ingredients were weighted accurately with the help of electronic balance and put in the tabular form. Each experiment was replicated 5 times.

These control pretreatments helped to compare milling effectiveness of treatments given to Arhar pulse.

DETERMINATION OF PHYSICAL PROPERTIES

• MOISTURE CONTENT

Moisture content of pigeon pea was determined by hot air oven/vacuum oven method by following the method as suggested by Hall (1971). Weighed sample (50 g approx) was placed in the hot air oven preheated to the desirable temperature. The samples were kept either for 100 ± 2° C for 18 hours in hot air oven or for 6 hrs. in vacuum oven. The bone dry samples thereafter taken out from the oven and were placed in desiccators to ambient temperature and then the difference in weight was noted. The moisture content thus determined was expressed in terms of wet basis or dry basis.

ADDITION OF MOISTURE

The moisture content of pigeon pea was measured after getting the moisture content of different samples additional water required for desired moisture content levels in the samples i.e. 6%, 8% and 10% (w.b.) was calculated. Then the calculated amount of water plus and additional amount of 10% of calculated water was added to supplement the evaporation losses during mixing and conditioning. Then tempering of samples was done by keeping the moisture added sample for 24 hrs. at room temperature so that to get uniform moisture content throughout the samples.

For adding the moisture up to desired level calculate initial moisture content and calculate the water required for desired level moisture content.

$$W_w = W_d \left(\frac{M_2 - M_1}{(1 - M_1)(1 - M_2)} \right)$$

Where

W_w = weight of water to be added

W_d = Bone dry wt. of raw material

M_1 = Initial Moisture content of material (w.b. in decimal)

M_2 = Desired Moisture content of material (w.b. in decimal)

• **TRUE DENSITY**

The true density values of pigeon pea at various moisture contents were determined by liquid displacement method using kerosene a liquid of low specific gravity. 10 gram sample was introduced in the measuring cylinder and the difference in level of liquid was noted. Three replications were taken for each measurement and the mean was reported as:

Mass of sample
True density = -----
True volume of sample

• **Angle of Repose**

The angle of repose is the angle between the base and the slope of the cone formed vertical fall of the granular material on horizontal plane. Angle of repose was calculated by making the regular heap by dropping the pigeon pea through funnel over smooth surface. The height and diameter of the heap were measured by measuring tape. Angle of repose was calculated by using following relation:

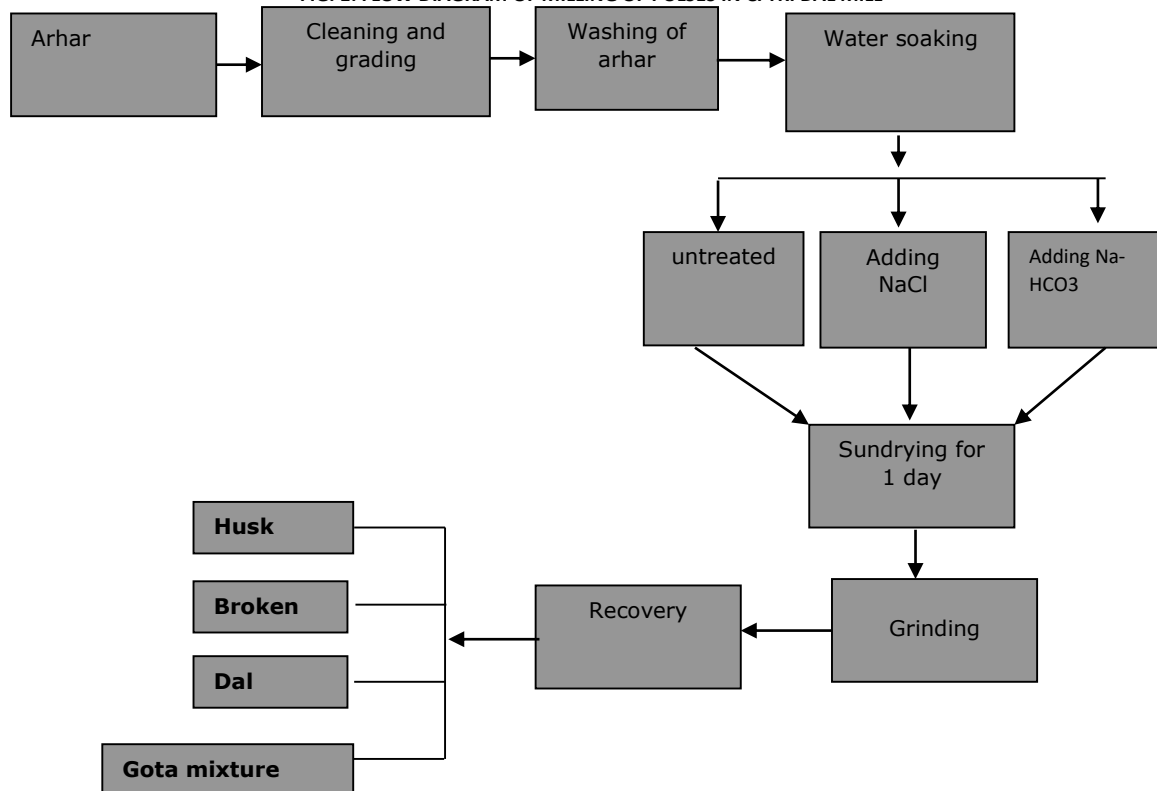
Angle of repose (degree) = \tan^{-1} (height/radius)

• **Coefficient of static friction**

Coefficient of friction was computed by using inclined plane. Glass Wooden and metal sheet were placed one by one on movable plane. Pigeon pea was then placed over the surface. The movable plane was then gradually lifted to a position where by the bran had just started sliding down to the plane. The plane was clamped at this position and angle of friction was measured. The same procedure was repeated thrice for the various moisture contents adjusted. The coefficient of friction was determined by the following relation (Sahay and Singh, 2003):

The coefficient of friction $\mu = \tan \phi$
Where, μ = Coefficient of static friction.
 ϕ = angle of static friction

FIG. 1: FLOW DIAGRAM OF MILLING OF PULSES IN CFTRI DAL MILL



TO CALCULATE THE EFFECTIVENESS OF MILLING

With above facts, following indices were developed and multiplied to each other to get the overall milling index. Here the difficulty was felt while differentiating between the GOTA and dal content of milled sample to obtain the meaningful milling index. The value of dal was reduced with respect to GOTA dal as per the comparative difference in market price of GOTA dal (Grade –I) and Dal (Grade –II dal.)

• **Formula for Milling Efficiency**

- $\eta = (1 - M_{uh} / M_t) (1 - M_b / M_t) X H_i \times 100$
- $H_i = H_a / H_t$

Where

- η = milling efficiency
- M_{uh} = mass of unhulled grains
- M_t = mass of grains fed to the system
- M_b = mass of broken
- H_a = actual mass of husk removed during milling
- H_t = theoretical husk content of the grain

• **Calculation for finding efficiency of milling:**

- GOTA index $\eta_G = G / (P - H)$
- Dal index $\eta_D = D / (P - H)$
- Dal with husk index $\eta_{DH} = (P - D_h) / P$
- Broken index $\eta_B = ((P - H_1) - B) / (P - H_1)$
- (GOTA + Dal) index $\eta_{GD} = (G + XD) / (P - H), X = C_D / C_G$

Where:

- G = weight of GOTA, g
- D = weight of dal, g

P = weight of whole pulse, g

H = weight of husk, g

D_H = weight of dal with husk, g

B = weight of (brokens + powder), g

C_D = cost of dal = Rs 3800/q.

C_G = cost of GOTA = Rs. 4000/q.

• **Calculation of Husk (H) & brokens (B)**

$$1. \quad H = H_1 (G+D)/GD$$

$$2. \quad B = P - (G + D + D_H + P_1 + H)$$

Where

H₁ = 15% of P for arhar variety: T: 21

= 0.15P

Then GD = 85% of P

= 0.85 P

P₁ = Whole Pulse in dehusked sample

• **Calculation of overall Milling Index**

$$\eta_o = \eta_{GD} \times \eta_{DH} \times \eta_B$$

Where:

η_o = Overall milling efficiency

RESULTS & DISCUSSION

The chemically treated grains were milled separately and percentage of fractions tabulated. Table.1 and Table 2 shows the percentage obtained when treated with sodium chloride and sodium Bicarbonate respectively. All the tests were conducted on one hour soaked grains in respective chemicals. Experiments show that grains soaked for one hour gave higher dhal recoveries than 30 min and 2 hours soaked grains. Initial imbibition's period of one hour was sufficient to increase the moisture content of the grain up to 29%-30% depending up on the ambient temperature. However, soaking beyond 30 minutes' duration, leaching of chemical nutrients occur which changes the Colour of the substrate. The increase in moisture content swells the content of the grain. The rate of swelling is different for different constituent of the grain. The subsequent drying of the grain thereby loses the hand strength between the hook and kernel. This effect has clearly been shown in figures 1 to 2. The recovery of dhal powder and brokens were plotted against concentration of the chemical used for treating the grain. The treated grains were milled at 6%, 8%, 10% and 12% moisture content. In general, there was an increase in dhal recovery with the increase in moisture content. However, it falls beyond 10% moisture content. The highest amount of dhal was obtained at 10% moisture content. The production of powder and brokens were also found increasing with the increase in concentration. These observations are true in both the case of chemicals used for treating the grain in NaCl and NaHCO₃.

The experiments conducted to determine the hardness of grain, show that the grain has the highest value of hardness (18 kg-force) at 8% moisture content. These values are much lower at 6% and 10% moisture contents, that is 13.6 kg force and 8.5 kg force respectively. This is the reason for higher dhal recovery at 10.0% moisture content. The fig. 3.9 shows the cibfurn tge statuette. The recoveries of dhal, powder, brokens and husked kernel coincided and are tabulated in table 3.3. NaCl treatment of grain of 6% concentration gave the highest dhal recovery when the grains were milled at 10% moisture content. However, the generation of powder and broken was minimum at 6% NaHCO₃ and 10% moisture content of grain. 58.5 dehusked kernels were obtained at 6% NaHCO₃ and 8% moisture content of grain.

Based on the above results conducted in the lab on stakes rice polisher, it was thought proper to conduct large scale tests on mini dhal mill using 6% NaHCO₃ concentration, 30 min. (summer) to 60 min. (winter) soaking and milling at 10% moisture content to get higher dhal recovery, minimum powder and minimum brokens losses.

For effective dhal mill operation, control of moisture content of grain is a very important factor. Milling at very low moisture, produced more powder and milling at a very high moisture produces more tin hulled and less dal recoveries. Therefore, milling of grain in the neighborhoods of 10.5% moisture content is recommended for industrial scale operation to higher dhal recovery.

The treated samples at desired levels of concentration were supplied to Biochemistry Department for biochemical analysis. The raw grain as well as oil treated grains were also supplied to meet the objectives defined earlier. The cooking qualities and experiments on mini dhal mill are in progress.

FINDINGS

Based on present findings:

- Treatment of pigeon pea grain should be done using 6% NaHCO₃
- Milling at 10.5% moisture content on wet basis for high's dal recovery
- Dehusking of grain should be done at 8.5% moisture content on wet basis
- Socking for then 1hr should not be recommended

RECOMMENDATIONS

There are following modes for improving Arhar dal recovery:

1. Parboiling of pulses at different levels may be tried, which may improve milling efficiency as well as cooking quality.
 2. Heating temperature and time may be further optimized for milling efficiency.
 3. A continuous operating system may be designed and developed to carryout uniform treatment at optimized levels.
 4. Better milling results may be obtained if arhar is first pitted and then oil smeared, heated and then tempered with other pretreatments. This pretreatment may be tried.
- Length of time for drying the grain for best milling operation of pigeon pea, experiments should be done to find out the length of time which will be required to reach to the required temperature and moisture content for different air temp., discharge rates, and static pressure.
 - Study should be done on milling performance of precondition treatments by different methods at different moisture levels.
 - Machine factors may also be studied which bring about dal milling losses. This will help in modifying the existing machines or give direction in designing new machines which can give better milling performance.

CONCLUSION

It has been well established by the study that at 6% NaHCO₃ concentration & 10.5% moisture content the recovery of dal is highest however it has to be verified on scale up operation and field conditions.

SCOPE FOR FURTHER RESEARCH

Future research work on "Performance Evaluation of CFTRI Dal Mill" may be done on following lines:

1. Length of time for drying the grain for best milling operation of pigeon pea, experiments should be done to find out the length of time which will be required to reach to the required temperature and moisture content for different air temp., discharge rates, and static pressure.

2. Study should be done on milling performance of precondition treatments by different methods at different moisture levels.
3. Machine factors may also be studied which bring about dal milling losses. This will help in modifying the existing machines or give direction in designing new machines which can give better milling performance.

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APPENDIX

TABLE NO. 1: EFFECT UNTREATED OF PIGEON PEA GRAIN ON MILLING AT DIFFERENT MOISTURE CONTENT (CONTROL)

S.no.	Moisture content /By products	6 %	8 %	10 %	12 %
1.	Husked (gm)	721.5	754.5	750	700.5
2.	Unhusked (gm)	57.0	70.50	72.00	162.0
3.	Dal (gm)	228.0	273.0	304.5	219.0
4.	Brokens (gm)	85.5	88.5	72.0	145.5
5.	Quantity of powder produced(gm)	408.0	313.5	301.5	273.0

TABLE NO. 2: EFFECT OF ADDITION OF 4%NaCl ON MILLING OF PIGEON PEA AT DIFFERENT MOISTURE CONTENTS

S.n.	Moisture content /By products	6 %	8 %	10%	12%
1.	Husked (gm)	732.0	774.0	759.0	709.5
2.	Unhusked (gm)	30.0	33.0	36.0	172.5
3.	Dal (gm)	237.0	288.0	327.0	208.5
4.	Brokens (gm)	84.0	87.0	64.5	144.0
5.	Quantity of powder produced(gm)	417.0	318.0	313.5	265.5

TABLE 3: EFFECT OF ADDITION OF NaHCO₃ ON MILLING OF PIGEON PEA AT DIFFERENT MOISTURE CONTENTS 4% NaHCO₃ CONTROL

S.no.	Moisture content /By products	6 %	8 %	10 %	12 %
1.	Husked (gm)	777.0	846.0	819.9	741.6
2.	Unhusked (gm)	42.0	70.5	87.0	175.8
3.	Dal (gm)	208.2	229.5	279.0	205.5
4.	Brokens (gm)	72.0	72.15	69.9	151.5
5.	Quantity of powder produced(gm)	400.8	281.85	244.2	225.6

A STUDY ON FINANCIAL DERIVATIVE OPTIONS WITH REFERENCE TO SELECTED SECTORS

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ABSTRACT

Financial markets always give importance to maximize returns and minimize risk. Derivatives are among the head of the innovations in the financial markets and aims to increase returns and reduce risk. They offer an opportunity for investors to protect themselves from the vagaries of the financial market. This paper gives a clear representation of development of derivatives such as Option Contracts and an attempt has been made to analyze the profit and loss position of Option contracts of buyers and sellers of different securities. This paper has also given more prominence to understand the concept of derivatives with special reference to Option Contracts and finally it provides a practical knowledge about the operations in the Option market.

KEYWORDS

derivative, options, securities.

INTRODUCTION

The birth of the market for derivatives instruments such as forwards, futures and options, can be found to the readiness of risk bearing economic agents to protect themselves against uncertainties and unexpected things arising out of variations in the prices of assets. Derivative tools or instruments initially came into exist as hedging devices against variations in product prices, and commodity-linked derivatives stayed the single form of such products for considerably three hundred years. Derivatives arose into focus in the 1970s period due to rising volatility in the financial markets. However meanwhile, since their presence, these products have turned into very prevalent and by 1990s, they accounted for about 2/3 of overall transactions in derivative instruments.

There are two types of Derivatives commonly traded in the market – Futures and Options, and in Options it is additionally a Call option and a Put option. The price of these derivatives is based on an underlying asset, and the price of the derivative generally moves in tandem with the price of the underlying. The underlying is generally a stock or an index in the context of investing in a stock market.

The most common derivatives products such as futures and options are becoming increasingly important in world markets as a tool for risk management. Derivatives tools have been used to reduce risk. Derivatives are used to isolate the risks and transfer them to parties willing to bear these risks. In recent years, the market for these derivatives instruments has grown enormously in form of different instruments available and their difficulty and also the turnover. Futures and options both the instruments on stock indices have added much popularity than on single stocks, particularly among institutional investors, who are main users of index-related derivatives.

OBJECTIVES OF THE STUDY

1. To understand the concept of Derivatives with a special reference to Options contracts.
2. To find out the profit or loss position of the Options buyers and sellers

RESEARCH METHODOLOGY

The present study is based on the secondary source of information. The secondary source of information is used in reviewing the literature and collection of company scripts. The Study is based on Descriptive research design. Randomly we have chosen different sector the data has been collected from INFOSYS, TCS, ICICI BANK and SBI scripts for the analysis. To analyze the profit or loss positions of selected sector the time period considered 24 months data. Scrip Tables are used to describe the profit and loss position of the different companies effectively. The table explains the market price and call options price. The 1st column clarifies date of trading. 2nd column elucidates the SPOT market price in cash segment on the date which is mentioned in the table. The 3rd column tells about call premiums amounting at following strike prices. based on the company's perspective the lot size varies form one company to another company hence the effect of loss or profit amount ultimately sands with lots sixe or volume traded.

LITERATURE REVIEW

Dr. Premalata (2003) analyses the effect of presenting the derivatives like index futures and options contracts on the instability of the underlining stock index in our country India. The outcome or results of his analysis suggest that the futures and options trading have not led to an alteration in the instability of the underlying stock index.

Snehal Bandwadekar and Saurabh Ghosh (2003) founded out that the derivative instruments like the futures and the options on the Stock Market of India have become significant instruments of price finding, portfolio variation and risk hedging in recent times.

O. P. Gupta (2004) studied and suggests that the overall instability of the stock market has dropped after the existence of the index futures for both the Nifty and the Sensex indices, anyhow there is no definite evidence.

Sandeep Srivastava (2005) used the open interest and volume based predictors of call and put option which has given by Bhuyan and Yan (2002). The outcome of the study shows that these predictors have noteworthy explanatory power with open interest as more important as compared to the trading volume.

Golaka C Nath and Rajendra P. Chitale (2005) study the behavior of volatility in cash market after the introduction of derivatives and examine issues and impediments in the use of different types of derivatives available for use by these institutional investors in India.

Ashutosh Vashishtha (2010) analyses that the turnover of derivative has grown from 2365 crores to Rs 11010482 crores in 2000-01, within a very small and short span of period of eight years derivative trading in India has exceeded successfully cash segment in terms of volume and turnovers.

OPTIONS

An option is a contract between a purchaser and a vendor, where one person (1st Person) provides to the other party (2nd Person) the right, but not the responsibility, to purchase from (or sell to) the First Person the underlying asset on or beforehand a precise day at a certain predetermined price. In return for allowing the option, the party granting the option gathers a payment from the other person. This payment collected is known the "premium" or the price of the option. The right to purchase or vend is alleged by the "option purchaser" the party permitting the right is the "option vendor". Dissimilar futures and forwards contracts, options need a cash payment (called the premium) upfront from the option purchaser to the option vendor. This imbursement is called as the option price or option premium. Options can be bought and sold either on the over the counter (OTC) markets or in the stock exchange. Options bought and sold on the exchanges are sponsored by the Clearing Corp thus reducing the risk ascending due to evasion by the counter parties tangled. Options which are traded in the OTC market are not backed by the Clearing Corporation.

PARTIES or PERSONS IN AN OPTION CONTRACT

- Buyer of the option: The purchaser of an option is a person who by paying option premium purchases the right but not the obligation to work out his option on seller.
- Writer or seller of the option: The writer of the call or put options is the person one who gets the option premium and is there by obligated to vend or purchase the asset if the purchaser aerobics the option on him.

OPTIONS TERMINOLOGY**OPTION PRICE**

Option price is the price that the option purchaser has to pay to the option vendor. It is also known to as the option premium.

EXPIRY DATE

The date mentioned in the option contract is understood as the expiry date, the exercise date, the straight date or the maturity date.

STRIKE PRICE

The price stated in the option contract is referred as the strike price or the exercise price.

IN-THE-MONEY OPTION

An ITM is an option that would hint to an optimistic cash movement to the owner if it was exercised instantly. A call option in the index can be said in the money when the existing index stays at higher level that the strike price (i.e. spot price > strike price). If the index is much upper than the strike price the call is known as deep in the money. In the event of a put option, the put is in the money if the index is lesser than the strike price.

AT-THE-MONEY OPTION

An ATM is an option that leads to zero cash movement if it implemented instantly. When the present index equivalents the strike price (spot price = strike price) den an option on the index will be an at the money.

OUT-OF-THE-MONEY OPTION

An OTM option is an option that leads to an adverse cash movement if it were exercised instantly. A call option on the index is become out of the money when the present index positions at less than the strike price (spot price < strike price). If the index is terribly lesser than the strike price the call is called as deep OTM. In the case of a put, the put is OTM if the index is greater the strike price.

INTRINSIC VALUE OF AN OPTION

It is one of the components of option premium. The intrinsic value of a call option is in the money, if it will be an in the money. If the call option is out of the money, its intrinsic value will be Zero. An option should be in the money to get an intrinsic value.

TYPES OF OPTIONS

There are two major types in options. They are:

- **CALL OPTION**

A call option is an option yielding the right to the purchaser of the option to purchase the underlying asset on a precise day at a predetermined and agreed upon price, but not the obligation or responsibility to do so. It is the vendor who gifts this right to the purchaser of the option. It might be noted that the party one who is having the right to purchase the underlying asset is referred as "buyer of the call option"

The price at which the purchaser has the right to purchase the asset is decided upon at the time of arriving to the contract. This is called as the strike price of the contract. Hence the purchaser of the call option has the right (but not the obligation) to purchase the underlying asset; he will use his right to purchase the underlying asset if and only if the price of the underlying asset in the market is extra than the strike price on or earlier the expiry date of the contract. The purchaser of the call does not have an obligation to purchase if he does not want.

STRATEGIES

The below are the strategies that are adopted by the parties of a call option. Imagining that commission, brokerage, premium, margins, transaction costs and taxes are ignored.

A call option buyer's profit or loss could be demarcated as under:

- At all points where spot price < exercise price, there will be a loss.
- At all points where spot prices > exercise price, there will be a profit.
- Call Option purchaser losses are limited and earnings are unlimited.

Conversely, the call option writer's profits/loss will be as follows:

- At all points where spot prices < exercise price, there would be a profit
- At all points where spot prices > exercise price, there would be a loss
- Call Option writer's earnings are limited and losses are unlimited

PUT OPTION

A put option is a contract surrendering the right to the purchaser of the option to vend the underlying asset on or earlier an exact day at a predetermined price, but not the obligation to do so. It is the vendor who delegates this right to the purchaser of the option.

The party one who has the right to vend the underlying asset is referred as the "buyer of the put option". The price at which the purchaser has the right to vend the asset is decided upon at the time of arriving the contract. This price is called as the strike price of the contract.

Since the purchaser of the put option has the right (but not the duty) to vend the underlying asset, he will execute his right to vend the underlying asset if and only if the price of the underlying asset in the bazaar is fewer than the strike price on or earlier the expiry date of the contract. The purchaser of the put option is not having the obligation to vend if he does not want to.

STRATEGIES

The below are the strategies which are adopted by the parties of a put option.

A put option purchaser's profit or loss could be calculated as follows:

- At all points where spot price < exercise price, there will be a gain.
- At all points where spot price > exercise price, there will be a loss.

Conversely, the put option writer's profit/loss will be as follows:

- At all points where spot price < exercise price, there will be a loss.
- At all points where spot price > exercise price, there will be a profit.

Analysis of profit or loss position of the option writer and option holder:

This analysis is to know the profit or loss position/situation of the Option seller and Option purchaser of different companies.

INFOSYS

The below analysis is mainly based on data taken from Infosys scripts. This analysis considered from February 2013 to January 2015 contracts of Infosys. The lot volume or lot size of Infosys is 250, the time period in which this analysis done is from 28-02-13 to 29-01-15.

CALL OPTIONS

TABLE 1: SHOWING DETAILS OF CALL OPTION CONTRACTS OF INFOSYS

Date	Market price	Strike prices			
		2500	2550	2650	2750
28 Feb 2013	2907	425.35	381.05	292.3	185
28 Mar 2013	2889.35	400	359.05	263.55	195
25 Apr 2013	2227.7	10.7	297.4	215.7	190.35
30 May 2013	2341.45	17.1	99.8	72.85	52.15
27 June 2013	2482.8	138.05	116.3	71.9	78
25 July 2013	2915.3	432.1	422.8	321.25	210
29 Aug 2013	3104.6	630.05	577.05	479.85	393
26 Sept 2013	3012.3	554.15	488.95	394.3	305.1
31 Oct 2013	3309.9	844.75	777.45	678.15	578.95
28 Nov 2013	3327.8	835	795.45	696.15	596.85
26 Dec 2013	3520.65	1017	992.8	893.65	813.55
30 Jan 2014	3704.25	1174.4	1170.75	1071.4	968.5
27 Feb 2014	3807.5	1301.6	1275.45	1176.15	1076.9
26 Mar 2014	3248.9	761	699.6	548.6	507.55
29 May 2014	2924.5	459.45	416.55	346.8	452.9
26 June 2014	3182.5	704.8	656.1	560.15	264.35
31 July 2014	3367.65	884.3	834.6	735.35	467.6
28 Aug 2014	3598.8	1115.4	1065.7	966.4	636.2
25 Sept 2014	3691	1212.35	1162.8	1063.65	867.05
30 Oct 2014	3881.45	1382.05	1332.05	1313.9	964.5
29 Jan 2015	2145.5	3.15	14.2	1651.1	1214.55

Source: NSE website (www.nseindia.com)

BUYERS PAYOFF

If a person who has purchased call Option at a strike price at Rs. 2500/-and the premium payable is Rs.425.35, at the end of the contract the spot market price is bounded at Rs. 2,145.5, since it will be out the money for purchaser and in the money for seller the purchase will be at loss hence the purchaser gets loss on premium i.e. ₹. 425.35 Per share. So the total loss for the purchaser will be ₹. 1, 06,337.5 (425.35 * 250).

SELLERS PAYOFF

As it is in the money for the seller, hence he will get a profit only premium i.e. Rs.425.35 per share. So the total profit to the seller will be Rs. 1, 06,337.5 (425.35 * 250).

Put options

TABLE 2: SHOWING DETAILS OF PUT OPTION CONTRACTS OF INFOSYS

Date	Market price	Strike prices			
		2500	2550	2650	2750
28 Feb 2013	2907	16.1	22.3	5.1	16
28 Mar 2013	2889.35	7.85	6.7	23	53.5
25 Apr 2013	2227.7	282.8	320	526.8	522.65
30 May 2013	2341.45	158	211.8	322.4	389.2
27 June 2013	2482.8	148.8	135.55	201.4	278.8
25 July 2013	2915.3	3.4	64.05	91.35	21.1
29 Aug 2013	3104.6	5.25	7.6	2.75	12.1
26 Sept 2013	3012.3	32.6	2.2	6.55	78
31 Oct 2013	3309.9	1.05	0.2	0.7	0.15
28 Nov 2013	3327.8	0.05	0.05	0.15	0.55
26 Dec 2013	3520.65	1.4	0	0	0.1
30 Jan 2014	3704.25	0	0	0	0
27 Feb 2014	3807.5	0	0	0	0
26 Mar 2014	3248.9	0	0	0	5.65
29 May 2014	2924.5	56	25.1	1.15	15.65
26 June 2014	3182.5	1.3	2.15	44.05	30.05
31 July 2014	3367.65	0.25	0.05	5.4	12
28 Aug 2014	3598.8	0.05	0.05	1.65	3.25
25 Sept 2014	3691	0	0	0	0.3
30 Oct 2014	3881.45	0	0	0.05	0.15
29 Jan 2015	2145.5	342.85	390.75	0	0.3

Source: NSE website (www.nseindia.com)

BUYERS PAYOFF

If an investor purchases 1 lot of Put Options for Rs 2,550 he has to pay premium of Rs. 22.3 Premium per share. The settlement price is Rs/- 2,145.5. The difference between strike price and spot price is Rs. 405 and investor has to consider premium price also hence the total profit of investor will be Rs 95,675. If it is positive value then it's a money contract for the buyer, hence purchaser will get profit only, in case spot price is high than the strike price, buyer will get loss.

SELLER'S PAYOFF

It is in the money for the purchaser and out the money for the seller, hence buyer will enjoy the profit and seller has to face the loss.

TCS: The below analysis is mainly based on data taken from TCS scripts. This analysis considered from February 2013 to January 2015 contracts of Infosys. The lot volume or lot size of TCS is 150, the time period in which this analysis done is from 28-02-13 to 29-01-15.

CALL OPTION

TABLE 3: SHOWING DETAILS OF CALL OPTION CONTRACTS OF TCS

date	market price	strike prices			
		1900	1950	2000	2050
28 Feb 2013	1517	0.05	0.1	9	-
28 Mar 2013	1575.75	0.95	2.8	33	0.05
25 Apr 2013	1402.3	0.25	1.9	57.2	0
30 May 2013	1499.4	0.05	22	94.23	0
27 June 2013	1491.9	0	17.5	46	-
25 July 2013	1795.75	78.75	66.8	116.2	-
29 Aug 2013	1947.1	134	96.2	135.2	-
26 Sept 2013	1942.9	148.6	112	171	44.75
31 Oct 2013	2112.05	273.15	126.75	124.6	172.3
28 Nov 2013	1984.6	157.1	111.11	191.1	30.25
26 Dec 2013	2100.3	243.8	167	225.5	133
30 Jan 2014	2217.6	364.2	193.23	276.6	248.3
27 Feb 2014	2182.15	319.35	257.57	311	196.55
26 Mar 2014	2094.25	258.6	273.75	350.25	158.35
24 Apr 2014	2213.75	324.9	315.2	319.98	235.25
29 May 2014	2159.95	306.6	369	475	192.8
26 June 2014	2307.65	424.3	454	398.75	305.15
31 July 2014	2580.05	705.95	498.9	507.11	543.8
28 Aug 2014	2522.35	634.95	415.6	567.23	486
25 Sept 2014	2708.6	824.85	511	706	676.15
30 Oct 2014	2558.2	671	455.21	845.2	524.1
27 Nov 2014	2653.3	765.15	602.02	659.25	616.1
24 Dec 2014	2479.9	596.15	653	402	448.95
29 Jan 2015	2544.65	656.75	685.2	678.8	507.75

Source: NSE website (www.nseindia.com)

BUYERS PAYOFF

If an investor has purchased call Option at a strike price at Rs. 1900/-and the premium payable is Rs.134, at the end of the contract the spot market price is bounded at Rs. 2,544.65, since it will be out the money for seller and in the money for the purchaser, the investor /purchaser will enjoy the profit of premium i.e. Rs 134 per share hence the total profit for the investor will be Rs. 16,750 (134*125).

SELLERS PAYOFF

Since it is out of the money for the seller, he will encompass a loss on premium i.e. ₹.134 per share.

PUT OPTIONS

TABLE 4: SHOWING DETAILS OF PUT OPTION CONTRACTS OF TCS

Date	market price	strike prices			
		1900	1950	2000	2050
28 Feb 2013	1517	48	85.23	55.62	459.2
28 Mar 2013	1575.75	12.55	54.12	96.15	630.75
25 Apr 2013	1402.3	34	36	65.25	552.2
30 May 2013	1499.4	46.4	112.36	45.26	127.5
27 June 2013	1491.9	11.75	11.25	63.26	81.75
25 July 2013	1795.75	39	68.25	32.25	77.8
29 Aug 2013	1947.1	40.75	77.36	44.26	50.75
26 Sept 2013	1942.9	10.4	45.98	12.65	9.15
31 Oct 2013	2112.05	37.55	123	36.25	8.95
28 Nov 2013	1984.6	36.6	154.69	77.26	43.9
26 Dec 2013	2100.3	13.6	175	45.12	16.35
30 Jan 2014	2217.6	42.2	134.5	49	23.2
27 Feb 2014	2182.15	40.4	99	55	16.6
26 Mar 2014	2094.25	13.2	36.25	63.25	1.55
24 Apr 2014	2213.75	46	118.36	86.52	1
29 May 2014	2159.95	41.65	12.55	11	0.05
26 June 2014	2307.65	10.55	48	27.65	0.75
31 July 2014	2580.05	40.1	225	38	42.2
28 Aug 2014	2522.35	36.3	69.36	111.36	40.4
25 Sept 2014	2708.6	6.65	185	98.25	13.2
30 Oct 2014	2558.2	37	147.26	85.85	46
27 Nov 2014	2653.3	32.2	169.2	125	41.65
24 Dec 2014	2479.9	2.35	109.45	145.32	10.55
29 Jan 2015	2544.65	21.1	152.65	125	40.1

Source: NSE website (www.nseindia.com)

BUYER'S PAYOFF

If an investor purchases 1 lot of Put Options for Rs 1,900he has to pay premium of Rs. 48 per share. The settlement price is Rs/- 2,544.65. The difference between strike price and spot price is Rs. -644.65 and investor has to consider premium price also hence the total loss of investor will be Rs 86,581.25. It is negative value then it's an out the money contract for the buyer, hence purchaser will face only, in case spot price is higher than the strike price, buyer will get loss.

SELLER'S PAYOFF

Since it is out the money for the seller, he will enjoy profit on premium.

ICICI: This below analysis is based on data taken from ICICI bank scrip. This analysis considered from February 2013 to January 2015 contracts of ICICI bank. The lot size or lot volume of ICICI is 1250, the time period for the below analysis is from 28-02-13 to 29-01-15.

CALL OPTION

TABLE 5: SHOWING DETAILS OF CALL OPTION CONTRACTS OF ICICI

Date	Market Price	Strike Prices			
		750	800	850	900
28 Feb 2013	1040.4	75.05	63.35	55.65	46.35
28 Mar 2013	1045.2	88.4	76.65	68.9	59.45
25 Apr 2013	1177.35	98.55	86.75	78.95	69.35
30 May 2013	1182.8	101.55	89.7	81.85	72.15
27 June 2013	1030.55	95.3	83.5	75.65	66
25 July 2013	934.85	95.35	83.5	75.6	65.9
29 Aug 2013	807.2	93.05	81.2	73.3	63.55
26 Sept 2013	946.1	91.05	79.2	71.3	61.5
31 Oct 2013	1120.95	92.1	80.2	72.3	62.45
28 Nov 2013	1038.1	94.9	83	75.05	65.15
26 Dec 2013	1099.65	94	82.1	74.15	64.25
30 Jan 2014	974.55	103.95	92	84.05	74.15
26 Feb 2014	1036.45	104.5	92.6	84.65	74.7
27 Mar 2014	1259	89.05	77.15	69.2	59.4
23 Apr 2014	1299.55	79.6	67.7	59.85	50.2
29 May 2014	1436.95	88.75	76.8	68.9	59.1
26 June 2014	1402.65	83.1	71.15	63.25	53.5
31 July 2014	1471.25	87.6	75.65	67.7	57.8
28 Aug 2014	1556.8	81.9	69.95	62	52.15
25 Sept 2014	1465.3	77.85	65.9	57.95	48.1
30 Oct 2014	1614.05	93.7	81.75	73.8	63.85
27 Nov 2014	1723.2	110.23	94.45	39.2	103.3
24 Dec 2014	353.1	124.36	100.23	62.36	123.23
29 Jan 2015	380.3	132.7	118.65	104	144.36

Source: NSE website (www.nseindia.com)

BUYERS PAYOFF

If an investor has purchased call Option at a strike price at Rs. 750/-and the premium payable is Rs.75.05 per share, at the end of the contract the spot market price is bounded at Rs. 380.3, since it will be out the money for purchaser and in the money for the seller, the investor purchaser will face loss on premium i.e. Rs, 75.05 per share hence the total loss for the investor will be Rs. 93,812.5 (75.05 * 1250).

SELLERS PAYOFF

Since it is in the money for the seller, he will get a profit on premium i.e. ₹.75.05 per share.

PUT OPTION

TABLE 6: SHOWING DETAILS OF PUT OPTION CONTRACTS OF ICICI

Date	Market Price	Strike prices			
		750	800	850	900
28 Feb 2013	1040.4	2.5	1.1	4.9	3.2
28 Mar 2013	1045.2	10	3.62	10.7	9.2
25 Apr 2013	1177.35	11.25	2.58	11.26	12.9
30 May 2013	1182.8	22.56	9.6	16	16.54
27 June 2013	1030.55	17.69	11	19.56	17.84
25 July 2013	934.85	26.36	23	13.56	21.45
29 Aug 2013	807.2	29.58	17.11	15.25	11.45
26 Sept 2013	946.1	34.98	22.36	21.25	19.36
31 Oct 2013	1120.95	37.25	10.36	26.63	25.85
28 Nov 2013	1038.1	24	8.96	23.45	29.05
26 Dec 2013	1099.65	29.31	25.47	30.12	30
30 Jan 2014	974.55	37.98	29.02	39.45	34.54
26 Feb 2014	1036.45	44.69	32.32	45.52	39.56
27 Mar 2014	1259	31.65	36.23	65	51.51
23 Apr 2014	1299.55	41.45	38.09	53.21	62.35
29 May 2014	1436.95	39.25	44.4	50.6	42.65
26 June 2014	1402.65	28.45	47.21	48.78	49.32
31 July 2014	1471.25	17.45	25.25	44.65	56.023
28 Aug 2014	1556.8	42	11.25	39	77
25 Sept 2014	1465.3	28.4	21	47.21	22.65
30 Oct 2014	1614.05	32.96	35.01	44.77	39.25
27 Nov 2014	1723.2	51	36.25	61.3	45.36
24 Dec 2014	353.1	48.89	30.3	59.85	51.02
29 Jan 2015	380.3	53.26	41.85	47.36	53.45

Source: NSE website (www.nseindia.com)

BUYER'S PAYOFF

If an investor purchases 1 lot of Put Options for Rs 750/-he has to pay premium of Rs. 44.69 per share. The settlement price is Rs/- 380. The difference between strike price and spot price is Rs. 369.70 and investor has to consider premium price also hence the total loss of investor will be Rs 4, 06,262.5. It is positive value then it's an in the money contract for the buyer, hence purchaser will get profit only, in case spot price is higher than the strike price, buyer will get loss.

SELLER'S PAYOFF

It is in the money for the purchaser and out of the money for the vendor. Hence the seller is in loss.

SBI: This below analysis is based on data taken from SBI bank scrip. This analysis considered the February 2013 to January 2015 contracts of SBI bank. The lot size or lot volume of SBI is 1250, the time period in which this analysis achieved is from 28-02-13 to 29-01-15.

CALL OPTION**TABLE 7: SHOWING DETAILS OF CALL OPTION CONTRACTS OF SBI**

Date	Market Price	Strike prices			
		1600	1700	1800	1900
28 Feb 2013	2080.9	761	292.3	44.75	319.98
28 Mar 2013	2072.75	459.45	263.55	172.3	475
25 Apr 2013	2334.55	704.8	215.7	30.25	66.8
30 May 2013	2088.55	884.3	185	133	96.2
27 June 2013	1912.5	381.05	195	248.3	112
25 July 2013	1798.15	359.05	190.35	196.55	126.75
29 Aug 2013	1487.8	297.4	52.15	158.35	111.11
26 Sept 2013	1676.1	99.8	78	235.25	167
31 Oct 2013	1796.75	116.3	210	192.8	193.23
28 Nov 2013	1763.6	422.8	393	305.15	257.57
26 Dec 2013	1753.45	577.05	305.1	543.8	273.75
30 Jan 2014	1516.6	488.95	369	486	315.2
26 Feb 2014	1520.4	215.7	454	676.15	369
27 Mar 2014	1837	72.85	498.9	524.1	454
23 Apr 2014	2065.2	71.9	415.6	616.1	498.9
29 May 2014	2601.45	321.25	511	448.95	415.6
26 June 2014	2652.55	479.85	455.21	507.75	511
31 July 2014	2439.25	394.3	602.02	171	455.21
28 Aug 2014	2460.7	507.55	653	124.6	602.02
25 Sept 2014	2377.7	452.9	685.2	191.1	475
30 Oct 2014	2638	264.35	124.6	225.5	398.75
27 Nov 2014	305.85	467.6	191.1	276.6	507.11
24 Dec 2014	305.75	636.2	225.5	311	567.23
29 Jan 2015	327	311	276.6	350.25	706

Source: NSE website (www.nseindia.com)

If an investor has purchased call Option at a strike price at Rs. 1900/-and the premium payable is Rs. 319.98 per share, at the end of the contract the spot market price is bounded at Rs. 327, since it will be out the money for purchaser and in the money for the seller, the investor purchaser will face loss on premium i.e. Rs. 319.98 per share hence the total loss for the investor will be Rs. 3,99,975 (319.98* 1250).

SELLERS PAYOFF

As it is in the money for the seller, he will earn a profit on premium.

PUT OPTION**TABLE 8: SHOWING DETAILS OF PUT OPTION CONTRACTS OF SBI**

Date	Market Price	Strike prices			
		1600	1700	1800	1900
28 Feb 2013	2080.9	34	175	81.75	68.25
28 Mar 2013	2072.75	46.4	134.5	77.8	98.25
25 Apr 2013	2334.55	11.75	99	50.75	85.85
30 May 2013	2088.55	39	36.25	9.15	125
27 June 2013	1912.5	40.75	118.36	8.95	145.32
25 July 2013	1798.15	10.4	12.55	43.9	125
29 Aug 2013	1487.8	37.55	48	16.35	13.2
26 Sept 2013	1676.1	36.6	225	23.2	46
31 Oct 2013	1796.75	13.6	69.36	16.6	41.65
28 Nov 2013	1763.6	42.2	65.25	48	10.55
26 Dec 2013	1753.45	40.4	45.26	12.55	40.1
30 Jan 2014	1516.6	13.2	63.26	34	225
26 Feb 2014	1520.4	46	32.25	46.4	69.36
27 Mar 2014	1837	41.65	44.26	11.75	185
23 Apr 2014	2065.2	10.55	12.65	39	147.26
29 May 2014	2601.45	40.1	36.25	40.75	169.2
26 June 2014	2652.55	36	77.26	32.2	109.45
31 July 2014	2439.25	112.36	45.12	2.35	152.65
28 Aug 2014	2460.7	11.25	49	21.1	154.69
25 Sept 2014	2377.7	68.25	55	85.23	175
30 Oct 2014	2638	77.36	63.25	54.12	134.5
27 Nov 2014	305.85	45.98	86.52	36	127.5
24 Dec 2014	305.75	123	11	112.36	81.75
29 Jan 2015	327	154.69	27.65	11.25	77.8

Source: NSE website (www.nseindia.com)

BUYERS PAYOFF

If an investor purchases 1 lot of Put Options for Rs1700/-he has to pay premium of Rs. 175 per share. The settlement price is Rs/- 327. The difference between strike price and spot price is Rs. 1198 and investor has to consider premium price also hence the total loss of investor will be Rs 14,97,500. It is positive value then it's an in the money contract for the buyer, hence purchaser will get profit only, in case spot price is higher than the strike price, buyer will get loss.

SELLERS PAYOFF

It is in the money for the purchaser and out of the money for the vendor. Hence the seller is in loss.

CONCLUSION

In India, Derivatives market is growing swiftly unlike equity markets. Trading in derivatives need high knowledge and understanding about finance. Being fresh to markets extreme number of investors has not yet understood the full allegations of the derivatives trading. These markets can give greater depth, stability and liquidity to Indian capital markets. Effective risk management with derivatives entails a detailed understanding of ideologies that administer the pricing of derivatives. Option market will act as an efficient price discovery vehicle which will certainly help the traders to take hedging and arbitrage positions to secure maximum returns at minimum risk exposure. In bullish market the call option seller incurs extra losses so the investor is recommended to go for a call option to buy, whereas the put option buyer hurts in a bullish market, so he is advised to sell a put option. In bearish market the call option purchaser gets more losses so the investor is advised to move for a call option to sell, whereas the put option seller gets more losses, so he is advised to buy a put option. Finally, it can be concluded that the derivatives are the instruments that are mostly used for hedging purpose. As we all know one cannot eliminate the risk completely but can minimize the risk to some extent.

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AN ARTICLE ON PERFORMANCE APPRAISAL: A STUDY WITH REFERENCE TO KIRLOSKAR ELECTRIC CO. LTD., MYSORE

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ABSTRACT

The study finds out that the performance appraisal mainly depends on many factors that regulate the standard operating procedure. In the process of following the standard operating procedures set by the organization, there will be a chance for some minor changes, that would make the factors either related or unrelated. In this case there no strong correlation between the responsibilities, accountability and the job satisfaction. It means that any employee has entered to the work place with a certain level of satisfaction and they would exactly know of what is to be done. Therefore, responsibilities of the supervisor and the individual employee's job satisfaction do not show a strong correlation. The inference of this gives insight to many other factors that might show a better correlation related to job satisfaction.

KEYWORDS

Kirloskar Electric Co. Ltd., performance appraisal.

INTRODUCTION

The history of performance appraisal is quite brief. Its roots in the early 20th century can be traced to Taylor's pioneering Time and Motion studies. But this is not very helpful, for the same may be said about almost everything in the field of modern human resources management. As a distinct and formal management procedure used in the evaluation of work performance, appraisal really dates from the time of the Second World War - not more than 60 years ago. Yet in a broader sense, the practice of appraisal is a very ancient art. In the scale of things historical, it might well lay claim to being the world's second oldest profession! There is, says Dulewicz (1989), "... A basic human tendency to make judgements about those one is working with, as well as about oneself." Appraisal, it seems, is both inevitable and universal. In the absence of a carefully structured system of appraisal, people will tend to judge the work performance of others, including subordinates, naturally, informally and arbitrarily. The human inclination to judge can create serious motivational, ethical and legal problems in the workplace. Without a structured appraisal system, there is little chance of ensuring that the judgments made will be lawful, fair, defensible and accurate. Performance appraisal systems began as simple methods of income justification. That is, appraisal was used to decide whether or not the salary or wage of an individual employee was justified. The process was firmly linked to material outcomes. If an employee's performance was found to be less than ideal, a cut in pay would follow. On the other hand, if their performance was better than the supervisor expected, a pay rise was in order.

Little consideration, if any, was given to the developmental possibilities of appraisal. It was felt that a cut in pay, or a rise, should provide the only required impetus for an employee to either improve or continue to perform well. Sometimes this basic system succeeded in getting the results that were intended; but more often than not, it failed. For example, early motivational researchers were aware that different people with roughly equal work abilities could be paid the same amount of money and yet have quite different levels of motivation and performance. These observations were confirmed in empirical studies. Pay rates were important, yes; but they were not the only element that had an impact on employee performance. It was found that other issues, such as morale and self-esteem, could also have a major influence. As a result, the traditional emphasis on reward outcomes was progressively rejected. In the 1950s in the United States, the potential usefulness of appraisal as tool for motivation and development was gradually recognized. The general model of performance appraisal, as it is known today, began from that time.

Performance appraisal is one of the most important requirements for all successful business and human resource policy (Kressler, 2003). Rewarding and promoting effective performance in organization, as well as identifying ineffective performers for resource management (Pulakos, 2003). The ability to conduct performance appraisal relies on the ability to assess an employee's performance in a fair and accurate manner. Evaluating employee performance is a difficult task. Once the supervisor understands the nature of the job and the source of information, the information needs to be collected in a systematic way, provided as feedback and integrated into the organization's performance management processor use in making compensation, job placement and training decisions and assignment (London, 2003)

Performance evaluations have been conducted since the times of Aristotle (Landy, Zedeck, Cleveland, 1983). The earliest formal employee performance evaluation program is thought to have originated in the United States military establishment shortly after the birth of the republic (Lopez, 1968). The measurement of an employee's performance allows for rational administrative decisions at the individual employee level. It also provides for the raw data for the evaluation of the effectiveness of such personnel-system components and processes as recruiting policies, training program, selection rules, promotional strategies and reward allocations (Landy, Zedeck, Cleveland, 1983). In addition, it provides the foundation for behaviorally based employee counseling. In the counseling setting, performance information provides the vehicle for increasing satisfaction, commitment and motivation of the employee. Performance measurement allows the organization to tell the employee something about their rates of growth, their competencies and their potentials. There is little disagreement that if well done, performance measurements and feedback can play a valuable role in effecting the organization (Landy, Zedeck, Cleveland, 1983). Performance Appraisal is the process of obtaining, analyzing and recording information about the relative worth of all employees. The focus of the performance appraisal is measuring and improving the actual performance of the employee and also the future potential of the employee which is important for the organisations. Its aim is to measure what an employee does. It is a powerful tool to calibrate, refine and reward the performance of the employee. It helps to analyze his achievements and evaluate his contribution towards the achievements of the overall organizational goals. By focusing the attention on performance, performance appraisal goes to the heart of personnel management and reflects the management's interest in the progress of the employees.

CONTENTS

People differ in their abilities and their aptitudes. There is always some difference between the quality and quantity of the same work on the same job being done by two different people. Therefore, performance appraisal is necessary to understand each employee's abilities, competencies and relative merit and worth for the organization. Performance Appraisal rates the employees in terms of their performance. Performance Appraisal takes into account the past performance of the employees and focuses on the improvement of the future performance of the employee. Performance Appraisal process must be done in any organization in an effective manner under proper management, so HR division must be involved here directly because HRD deals with the viewpoint of personal development, work satisfaction of workers and involvement in the organization. Performance Appraisal is the systematic evaluation of the performance of employees and to understand the abilities of a person for further growth and development. Performance Appraisal is generally done in systematic ways which are as follows:

1. The supervisors measure the pay of employees and compare it with targets and plans.
2. The supervisor analyses the factors behind work performances of employees.
3. The employers are in position to guide the employees for a better performance.

Performance Appraisal is one of the key functions of human resource management. To achieve the target goals of the organization, human resources manager has to be very cautious about the performance of the manpower of the organization. Performance is appraised on specific periodic basis. It helps supervisors gain a better understanding of each employee’s abilities with the goal to help, train and develop skills and strengths. It provides a chance to evaluate job progress, stimulate interest and improve job performance by recognizing productive work and by pointing out areas of growth and development. It provides a feedback mechanism that might otherwise be overlooked. So, performance appraisal is a continuous process. Performance Appraisal is defined as the process of assessing the performance and progress of an employee or a group of employees on a given job and his / their potential for future development. It consists of all formal procedures used in working organizations and potential of employees. According to Flippo, —Performance Appraisal is the systematic, periodic and an important rating of an employee’s excellence in matters pertaining to his present job and his potential for a better job.

OBJECTIVES

1. To study the relationship between responsibility and job satisfaction.
2. The study would help the organization in meeting its future professional understanding on the factors.
3. The study will help the individuals in their group by improving their knowledge as well as skill.

METHODOLOGY

I have taken 60 people in my sample size as the sample size should be neither so small nor so large. Conducted the survey and used correlation as a tool to analysis to find the relationship between responsibilities of the supervisor with respect to level of satisfaction of the job.

Correlation

y- Responsibility and accountability by supervisor.

x- Level of satisfaction of job.

TABLE 1

Factors Yes / No	X	Y	XY	X ²	Y ²
Poor to Excellent Frequency					
00 -15	35	06	210	1225	36
15 -30	12	26	312	144	676
30 - 45	08	24	192	64	576
45 - 60	05	04	20	25	16
Total	? X = 60	? Y = 60	? XY = 734	? X² = 1458	? Y² = 1304

$$R = \frac{n\sum xy - (\sum x)(\sum y)}{\sqrt{[n\sum x^2 - (\sum x)^2] X [n\sum y^2 - (\sum y)^2]}}$$

$$R = \frac{4(734) - (60)(60)}{\sqrt{4(1458) - (60)^2 X 4(1304) - (60)^2}}$$

$$R = \frac{2936 - 3600}{\sqrt{(5832 - 3600) X (5216 - 3600)}}$$

$$R = - 664 / \sqrt{2232 X 1616}$$

$$R = - 664 / \sqrt{3606912}$$

$$r = - 664 / 1899.18$$

$$R = - 0.3496$$

There is no strong correlation between X and Y factors.

CONCLUSION

Performance appraisal mainly depends on many factors that regulate the standard operating procedure. In the process of following the standard operating procedures set by the organization, there will be a chance for some minor changes, that would make the factors either related or unrelated. In this case there no strong correlation between the responsibilities, accountability and the job satisfaction. It means that any employee has entered to the work place with a certain level of satisfaction and they would exactly know of what is to be done. Therefore, responsibilities of the supervisor and the individual employee’s job satisfaction do not show a strong correlation. The inference of this gives insight to many other factors that might show a better correlation related to job satisfaction.

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TECHNOLOGICAL INNOVATIONS IN INDIAN BANKING SECTOR: AN INSTRUMENT FOR ECONOMIC GROWTH

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ABSTRACT

Over the last three decades the role of banking in the process of financial intermediation has been undergoing a profound transformation, owing to changes in the global financial system. Technological innovation is one of the most important catalysts for the transformation of the banking industry in terms of its transactions processing as well as for various other internal systems and processes. In the context of Indian banking system, it touches the lives of millions of people and it is growing at a fast pace. In India, banking industry is facing number of challenges like business strategies, changing needs and perceptions of customers, new regulations from time to time and great advances in technologies. The pressure of meeting these challenges have required banks to change the traditional method of doing business. The various innovations in banking and financial sector are ATM, Debit and Credit cards, ECS, EFT, NEFT, RTGS, POS, Retail banking, net banking, mobile banking and many more value added products and services. This paper studies about financial innovation in banking in India. It also highlights the benefits and challenges of innovative banking trends. Banks boost technology investment spending strongly to address revenue, cost and competitiveness concerns. The purpose of present study is to analyze such effects of innovation in banking on growth and development of India.

KEYWORDS

Indian banking, financial innovations, technological changes, mobile banking, ATM, debit & credit cards.

1.0 INTRODUCTION

Globally, there has been a rapid advancement in Information and Communication Technology (ICT), which has reflected in bank's business strategies, customer services and organisational structures, among others. The banking industry in India has a huge canvas of history, which covers the traditional banking practices from the time of Britishers to the reforms period, nationalization to privatization of banks and now increasing numbers of foreign banks in India. Indian banking sector has witnessed a number of changes. It has undergone a huge transformation in the years since Independence. Over the years, the Reserve Bank of India has laid special emphasis on technology infusion in the day to day operations of banks. The role of technological innovations in banking sector enabling to meet the challenge of economic growth and ensuring financial stability that is now at the forefront. Effective use of technology has a multiplier effect on growth and development. Technology enables increased penetration of the banking system, increases cost effectiveness and makes small value transactions viable. Technology, apart from increasing the efficiency of banking services, is expected to boost the ongoing process of financial inclusion emphasized by the Reserve Bank.

To be more specific for commercial banking business, it has changed dramatically over the past 25 years, due in large part to technological changes. Advances in telecommunications, information technology, financial theory and practice have jointly transformed many of the relationship focused intermediaries of yesteryear into data-intensive risk management operations of today. Consistent with this, commercial banks embedded as part of global financial institutions that engage in a wide variety of financial activities. Technological changes relating to telecommunications and data processing have encouraged financial innovations that have altered bank products and services and production processes. The various innovations in banking and financial sector are ECS, RTGS, EFT, NEFT, ATM, POS, Retail Banking, Debit & Credit cards, free advisory services, payments of utility bills, fund transfers, internet banking, telephone banking, mobile banking, selling insurance products, issue of free cheque books, travel cheques and many more value added services.

2.0 TECHNOLOGICAL DEVELOPMENT IN INDIAN BANKING

Innovative use of information and communications technologies improves the front end operations with back end operations and helps in bringing down the transaction costs for the customers. The important events in the field of information technology in the banking sector in India are:

TABLE 2.1: VARIOUS TECHNOLOGICAL INNOVATIONS IN BANKING SECTOR

Sr. No.	Technological Innovations	Introducing year
1	Arrival of card-based payments – Debit/Credit card in late	1980s and 1990s
2	Introduction of Electronic Clearing Services (ECS) in late	1990
3	Introduction of Electronic Fund transfer (EFT) in early	2000
4	Introduction of Real Time Gross Settlement (RTGS)	March 2004
5	Introduction of National Electronic Fund Transfer (NEFT) as a replacement to Electronic Fund Transfer	2005-2006
6	Cheque Truncation System (CTS)	2007
7	Mobile banking system	2008

Source: Various issues of RBI

3.0 THE ROLE OF FINANCE AND FINANCIAL INNOVATION IN BANKING SECTOR

The primary function of a financial system is to facilitate the allocation and deployment of economic resources, both spatially and across time, in an uncertain environment. This function encompasses a payments system with a medium of exchange; the transfer of resources from savers to borrowers; the gathering of savings for pure time transformation and the reduction of risk through insurance and diversification.

Hence, a Financial Innovation as something new that reduces costs reduces risks or provides an improved product/service/instrument that better satisfies financial system participants demands. Financial innovations can be grouped as new products (e.g., subprime mortgage) or services (e.g., Internet banking) or new organizational forms (e.g., Internet-only banks).

The Centrality of finance in an economy and its importance for economic growth naturally raises the importance of financial innovation – and its diffusion. Since finance is a facilitator of virtually all production activity and much consumption activity, improvements in the financial sector will have direct positive ramifications throughout an economy. Further, since better finance can encourage more saving and investment and can also encourage more productive investment decisions, these indirect positive effects from financial innovation and further to its value for an economy.

The general innovation literature in economics has sought to uncover the environmental conditions that affect the stream of innovations-focusing on hypotheses concerning roughly five structural conditions: **the market power of enterprises, the size of enterprises, technological opportunity, appropriability and product market demand conditions.**

Financial innovation is one of the commonly used banking terminologies. It has been used to describe any change in the scale, scope and delivery of financial services. Financial innovation is a key to survival of banks in contemporary banking environment. The importance of financial innovation is widely recognized. Many leading scholars, including Miller (1986) and Merton (1992), have highlighted the importance of products and services in the financial arena. According to John Finnerty, "Financial Innovation involves the design, the development, and the implementation of innovative financial instruments and processes, and the formulation of creative solutions to problems in finance". Innovative ideas are manifest in diverse industries and in different forms. For example, innovation in product development is one of the forms of innovation that has been used by banks. Right from the beginning stage of financial modernization innovations have been playing major roles in curtailing financial exclusions and improving the ways banking services are rendered to people. The deregulation of financial service industry and increased competition with in investment banking undoubtedly led to increased emphasis on the ability to design new products, develop better process, and implement more effective solution for increasingly complex financial problems. These financial innovations are a result of number of Government regulations, tax policies, globalization, liberalization, privatization, integration with the international financial market and increasing risk in the domestic financial market. Financial innovation is the process through which finance managers or intermediary institutions in financial markets add value to existing plain vanilla products that satisfy the user needs. The various innovations in banking and financial sector are ECS, RTGS, EFT, NEFT, ATM, POS, Retail Banking, Debit & Credit cards, free advisory services, payments of utility bills, fund transfers, internet banking, telephone banking, mobile banking, selling insurance products, issue of free cheque books, travel cheques and many more value added services.

The banks are looking for new ways not only to attract but also to retain the customers and gain competitive advantage over their competitors. The banks like other business organizations are deploying innovative sales techniques and advanced marketing tools to gain supremacy. The main driver of this change is changing customer needs and expectations. Customers in urban India no longer want to wait in long queues and spend hours in banking transactions. This change in customer attitude has gone hand in hand with the development of ATMs, Mobile phone and net banking along with availability of service right at the customer's doorstep. With the emergence of universal banking, banks aim to provide all banking product and service offering less than one roof and their endeavor is to be customer centric. While banks are striving to strengthen customer relationship and move towards 'relationship banking,' customers are increasingly moving away from the confines of traditional branch banking and seeking the convenience of remote electronic banking. Information technology and the communications networking systems have revolutionaries the working of banks and financial entities all over the world.

4.0 REVIEW OF LITERATURE

In order to be able to understand the research and establish its objectives, it is necessary to have good look at past and contemporary research on the topic. The following literatures are related to research topic.

Arora (2003) highlighted the significance of bank transformation. Technology has a definitive role in facilitating transactions in the banking sector and the impact of technology implementation has resulted in the introduction of new products and services by various banks in India.

Avasthi & Sharma (2000-01) have analyzed in their study that advances in technology are set to change the face of banking business. Technology has transformed the delivery channels by banks in retail banking. It has also impacted the markets of banks. The study also explored the challenges that banking industry and its regulator face.

B. Janki (2002) analyzed that how technology is affecting the employees' productivity. There is no doubt, in India particularly public sector banks will need to use technology to improve operating efficiency and customer services. The focus on technology will increase like never before to add value to customer services, develop new products, strengthen risk management etc. the study concludes that technology is the only tool to achieve their goals.

Hua G. (2009) investigates the online banking acceptance in China by conducting an experiment to investigate how users' perception about online banking is affected by the perceived ease of use of website and the privacy policy provided by the online banking website.

Jalan, B. (2003), IT revolution has brought about a fundamental transformation in banking industry. Perhaps no other sector has been affected by advances in technology as much as banking and finance. It has the most important factor for dealing with the intensifying competition and the rapid proliferation of financial innovations.

Merton and Bodie (2005), Financial innovation is helpful in ensuring smooth functioning and improves the overall efficiency of the system by minimizing cost and reducing risk. More generally, financial innovation has been a central force driving the financial system toward greater economic efficiency.

Mittal, R.K. and Dhingra, S. (2007) studied the role of technology in banking sector. They analyzed investment scenario in technology in Indian banks but this study was related to the time period before the Information Technology Act and at that time technology in Indian banks was very low. But both the researchers nicely presented their views.

Padhy, K.C. (2007) studied the impact of technology development in the banking system and he also highlights the future of banking sector. The core competencies will provide comparative advantages.

From the above reviews it is observed that the banking industries itself adopted various innovative schemes for furtherance of their business and to attract more and more customers. These has resulted their sustainability and keep their brand image even in the competitive environment. Further, technology is one of the important segments where maximum stresses are provided for dissemination of innovative ideas and it is observed that major innovation took place in this field in recent years.

5.0 OBJECTIVE OF THE STUDY

The major objective of the study is to analyses the various innovative instruments introduced by banks in recent times. The specific objectives of the study are:

- To analyses the ATM, Debit & Credit cards, NEFT, RTGS and Mobile banking progress in the banking sector
- To analyses the banking innovations after computerization of commercial banks of India.
- To study how innovations have contributed to the development of Indian banking.
- To study the challenges faced by Indian banks in the changing scenario.

6.0 RESEARCH METHODOLOGY

RESEARCH DESIGN: Exploratory and empirical research design based on secondary data

SOURCE OF DATA: The present study is based on the secondary data collected from different journals, magazines, sites and published data from various issues of RBI e.g. Annual reports of RBI, Reports on Trends and Progress of Banking in India.

TOOLS OF ANALYSIS: The Data collected for the study was analyzed logical and meaningfully to arrive at meaningful conclusion. The data is analyzed by calculating simple averages and percentages.

PERIOD OF STUDY: Data for a period of 2015-16

7.0 ANALYSIS AND FINDINGS

7.1 GROWTH OF ATM'S IN INDIA

An automated teller machine (ATM) is a computerized telecommunications device that provides banking services ANY TIME and ANYWHERE to the customer. The customer is saved the risk or bother of carrying hard cash or travelers' cheque while travelling. It has also given cost savings to banks. Entry of ATMs has changed the profile of front offices in bank branches. Customers no longer need to visit bank branches and other places for their day to day banking transactions like cash deposits, withdrawals, cheque collection, balance enquiry, train tickets reservations, products from shopping mall, donations and charities, adding prepaid or postpaid mobile phone transactions, purchasing online products, paying bills, fees and taxes, pos etc.

TABLE 7.1: ATMs OF SCHEDULED COMMERCIAL BANKS

Sr. No.	Bank group	On site ATMs	Off site ATMs	Total number of ATMs	Off site ATMs as % of total ATMs
1	2	3	4	5	6
I	Public sector banks	80399	62060	142459	43.56
1.1	Nationalised banks	53629	30142	83771	35.98
1.2	SBI Group	26770	31918	58688	43.56
II	Private sector banks	20724	33708	54432	61.93
2.1	Old private sector banks	5251	4821	10072	47.87
2.2	New private sector banks	15473	28887	44360	65.12
III	Foreign banks	261	799	1060	75.38
IV	All SCBs (I+II+III)	101384	96567	197951	48.28

Source: Bank wise ATM/POS/CARD Statistics, March 2016, RBI

As same as the previous years, the penetration of ATMs across the country is again increasing in 2015-16. In 2015-16 the number of ATMs witnessed a growth of approximately 20 percent to the previous year. It is not an exaggeration to said that across the country, this growth will cross the level of 2,00,000 ATMs in next year. All Over the year, the relative growth in on-site ATMs has been much more than of off-site ATMs. Approximately 70% percent of the total ATMs belonged to the public sector banks as at end March 2016 as shown in Table 7.1.

7.2 DEBIT CARD AND CREDIT CARD

Plastic money is the alternative of cash or standard money. Its simple feature of convenient to carry helps the bank clients to access their account to withdraw cash or pay for goods and services anytime and anywhere. The various plastic money or cards include ATM cards e.g. Debit Card, ATM cum Debit Card, Credit Card. Plastic money was a delicious gift to Indian market. Now several new features added to plastic money to make it more attractive. In this next step credit card is given the various facilities to their users. Customers can borrow money for purchasing the products and services on credit.

TABLE 7.2: CREDIT AND DEBIT CARDS ISSUED BY SCHEDULED COMMERCIAL BANKS (in millions)

Sr. No.	Bank group	Outstanding Number of Credit Cards		Outstanding Number of Debit Cards	
		2015	2016	2015	2016
1	2	3	4	5	6
I	Public sector banks	4308449	5048354	459626728	548501376
1.1	Nationalised banks	1150417	1428312	253699883	306723370
1.2	SBI Group	3158032	3620042	205926845	241778006
II	Private sector banks	12075440	14731014	90787177	102569319
2.1	Old private sector banks	162003	209965	22526510	23908563
2.2	New private sector banks	11913437	14521049	68260667	78660756
III	Foreign banks	4726764	4725851	3037648	3043526
IV	All SCBs (I+II+III)	21110653	24505219	553451553	654114221

Source: Bank wise ATM/POS/CARD Statistics, March 2016, RBI

Note: Computed by author

There has been growth in issuance of debit and credit cards by public and private sector banks. However, a Debit card is much higher as compared to credit cards and they remain a preferred mode of transactions in India. While public sector banks have been frontrunners in issuing debit cards, new private sector banks continue to lead in the number of credit cards issued (Table 7.2).

7.3 NEFT (NATIONAL ELECTRONIC FUNDS TRANSFER)

Gone are those days when depositing amount in a friend, relatives or others account would take a few business days. World is moving faster and now there are various methods for fund transfer to another account within nix time. According to Reserve Bank of India, NEFT is a nation-wide payment system to facilitate one-to-one funds transfer. Under NEFT, individuals, firms and corporate can electronically transfer their funds from any bank branch to any individual, firm or corporate having an account with any other bank branch in the country participating in the scheme. The funds under NEFT can be transferred by individuals, firms or corporate maintaining accounts with a bank branch. Even individuals not having a bank account can deposit cash at the NEFT-enabled branches with instructions to transfer funds using NEFT. However, such cash remittances will be restricted to a maximum of Rs. 50,000/- per transaction. Such walk-in-customers have to furnish full details including complete address, telephone number etc. NEFT, thus, also help in transfer of funds even without having a bank account. This is a simple, secure, safe, fastest and cost effective way to transfer funds especially for Retail remittances.

TABLE 7.3.1: NEFT BY SCHEDULED COMMERCIAL BANKS (Amount in Rs. millions)

Sr. No.	Bank group	TOTAL OUTWARDS DEBITS			
		2015		2016	
		No. of Transactions	Amount	No. of Transactions	Amount
1	2	3	4	5	6
I	Public sector banks	57362752	2969292.87	59866187	4105223.86
1.1	Nationalised banks	23397072	1294425.01	26348622	1986997.76
1.2	SBI Group	33965680	1674867.86	33517565	2118226.10
II	Private sector banks	36141523	2437423.71	50192033	3594872.95
2.1	Old private sector banks	4078584	256787.45	4784442	317989.40
2.2	New private sector banks	32062939	2180636.26	45407591	3276883.55
III	Foreign banks	11605703	1404018.01	14357901	1833517.34
IV	All SCBs (I+II+III)	105109978	6810734.59	124416121	9533614.15

Source: Bank wise volume in ECS/NEFT/RTGS/Mobile Banking Mar 2015 & Mar 2016, RBI

TABLE 7.3.2: NEFT BY SCHEDULED COMMERCIAL BANKS (Amount in Rs. millions)

Sr. No.	Bank group	RECEIVED INWARD CREDITS			
		2015		2016	
		No. of Transactions	Amount	No. of Transactions	Amount
1	2	3	4	5	6
I	Public sector banks	74835617	3538131.40	89990261	5155302.74
1.1	Nationalised banks	52773048	2448059.68	60777124	3416013.87
1.2	SBI Group	22062569	1090071.72	29213137	1739288.87
II	Private sector banks	25179809	2497392.84	31668368	3554414.44
2.1	Old private sector banks	4100478	272866.85	4961859	403782.23
2.2	New private sector banks	21079331	2224525.99	26706509	3150632.21
III	Foreign banks	3316065	974100.34	4127832	1278438.34
IV	All SCBs (I+II+III)	103331491	7009624.58	125786461	9988155.52

Source: Bank wise volume in ECS/NEFT/RTGS/Mobile Banking Mar 2015 & Mar 2016, RBI

Note: Computed by author

On the basis of table 7.3.1 and 7.3.2, it can be seen that the penetration of NEFT is increasing day by day across the country. The customers of bank are enjoying this simple, secure, safe, fastest and cost effective fund transfers. As compare to year 2015, number of inward and outward transactions has increased in 2016. As the same comparison from 2015, the number of transactions of outward and inward witnessed a growth of 18 and 21 percent approximately. In all SCBs, the percentage of public sector banks is performing much better than to other banks. With the oldest and wide networking of public sector banks, customers are showing more trust on it and take interest for using their fund transfer system as compare to private sector banks and foreign banks.

7.4 RTGS (REAL TIME GROSS SETTLEMENT SYSTEM)

RTGS, introduced in India since March 2004, is a system through which electronics instructions can be given by banks to transfer funds from their account to the account of another bank. The RTGS system is maintained and operated by the RBI and provides a means of efficient and faster funds transfer among banks facilitating their financial operations. As the name suggests, funds transfer between banks takes place on a 'Real Time' basis. Therefore, money can reach the beneficiary instantly and the beneficiary's bank has the responsibility to credit the beneficiary's account within two hours.

There has been a sustained growth of RTGS in 2016. In terms of both volume and value of all types of electronic transactions of scheduled commercial banks has increasing gradually. The transactions which are more than 2,00,000 lakhs rupees' people are using this safe, secure and fastest system. On the basis of table 7.4.1 and 7.4.2, it can be seen that the volume of private sector banks and foreign banks is less than public sector banks but their value is more than public sector banks. It means the transactions which are above two lakh bank customers are showing more trust on these two sectors bank.

TABLE 7.4.1: RTGS (BANK WISE RTGS INWARD) BY SCHEDULED COMMERCIAL BANKS (Volume in million, Value in Rs. billion)

Sr. No.	Bank group	Bank wise RTGS inward							
		2015				2016			
		Volume	%	Value	%	Volume	%	Value	%
1	2	3	4	5	6	7	8	9	10
I	Public sector banks	4910474	50.77	29325.01	50.77	4933263	50.01	31982.07	31.97
1.1	Nationalised banks	3163296	32.70	19443.64	32.70	3184469	32.28	20715.52	20.71
1.2	SBI Group	1747178	18.06	9881.37	18.06	1748794	17.73	11266.55	11.26
II	Private sector banks	3694316	38.19	32453.50	38.19	3855320	39.08	38610.49	38.59
2.1	Old private sector banks	593888	6.14	2096.99	6.14	603933	6.12	2310.48	2.31
2.2	New private sector banks	3100428	32.05	30356.50	32.05	3251387	32.96	36300.01	36.28
III	Foreign banks	860708	8.90	18232.66	8.90	830143	8.42	19109.88	19.10
IV	All SCBs (I+II+III)	9465498	97.86	80011.16	97.86	9618726	97.51	89702.45	89.66

Source: Bank wise volume in ECS/NEFT/RTGS/Mobile Banking Mar 2015 & Mar 2016, RBI

TABLE 7.4.2: RTGS (BANK WISE RTGS OUTWARD) BY SCHEDULED COMMERCIAL BANKS (Volume in million, Value in Rs. billion)

Sr. No.	Bank group	Bank wise RTGS outward							
		2015				2016			
		Volume	%	Value	%	Volume	%	Value	%
1	2	3	4	5	6	7	8	9	10
I	Public sector banks	5294842	54.74	29652.66	54.74	5265806	53.38	33010.63	33.00
1.1	Nationalised banks	3722778	38.49	20149.52	38.49	3717852	37.69	21055.60	21.05
1.2	SBI Group	1572064	16.25	9503.14	16.25	1547954	15.69	11955.03	11.95
II	Private sector banks	3660583	37.84	33292.35	37.84	3841837	38.95	39827.16	39.81
2.1	Old private sector banks	729738	7.54	2172.31	7.54	744080	7.54	2442.04	2.44
2.2	New private sector banks	2930845	30.30	31120.04	30.30	3097757	31.40	37385.11	37.37
III	Foreign banks	444862	4.60	18545.84	4.60	434754	4.41	19249.88	19.24
IV	All SCBs (I+II+III)	9400287	97.18	81490.85	97.18	9542397	96.74	92087.67	92.05

Source: Bank wise volume in ECS/NEFT/RTGS/Mobile Banking Mar 2015 & Mar 2016, RBI

Note: Computed by author

7.5 MOBILE BANKING

Mobile phones as a medium for providing banking services have been attaining increased importance. Reserve Bank brought out a set of operating guideline on mobile banking for banks in October 2008, according to which only banks which are licensed and supervised in India and have a physical presence in India are permitted to offer mobile banking after obtaining necessary permission from Reserve Bank. The guidelines focus on systems for security and inter-bank transfer arrangements through Reserve Bank's authorized systems. On the technology front the objective is to enable the development of inter-operable standards so as to facilitate funds transfer from one account to any other account in the same or any other bank on a real time basis irrespective of the mobile network, a customer has subscribed to.

TABLE 7.5.1: BANK-WISE MOBILE BANKING TRANSACTIONS BY SCHEDULED COMMERCIAL BANKS (Volume in million, Value in Rs. billion)

Sr. No.	Bank group	2015		2016	
		Volume	Value	Volume	Value
1	2	3	4	5	6
I	Public sector banks	9504405	44379077	19058807	164056436
1.1	Nationalised banks	1058355	27568486	3591157	19580385
1.2	SBI Group	8446050	16810591	15467650	144476051
II	Private sector banks	9747894	119912000	23025128	292431868
2.1	Old private sector banks	376385	1429016	776344	3840962
2.2	New private sector banks	9371509	118482985	22248784	288590906
III	Foreign banks	446612	4610495	611129	7913341
IV	All SCBs (I+II+III)	19698911	168901572	42695064	464401645

Source: Bank wise volume in ECS/NEFT/RTGS/Mobile Banking Mar 2015 & Jan 2016, RBI

Note: Computed by author

Mobile users have found convenience in the use of mobile phone to transfer money. There is a remarkable increasing trend in this electronic payment. The value of mobile transactions jumped more than two times in just one year and the total value of money transferred through mobile phones surged to Rs 46,44,01,645 crores in 2015-16 from Rs 16,89,01,572 crores in 2014-15. In all scheduled commercial banks the percentage of private sector banks are performing much better than to other banks. They are transferring more money through mobile phones than ever before.

8.0 CHALLENGES AHEAD FOR BANKING SECTOR

Banking industry in India has also achieved a new height with the changing times. Banking through internet has emerged as a strategic resource for achieving higher efficiency, control of operations and reduction of cost by replacing paper based and labor intensive methods with automated processes thus leading to higher productivity and profitability. Financial innovation associated with technological change totally changed the banking philosophy and that is further tuned by the competition in the banking industry. Challenging business environment within the banking system create more innovation in the fields of product, process and market.

India is a country with huge population and the demographic growth of India is such that it is going to become the most populated country very soon. Technological advancements can bring about close integration between the urban and rural population. The primary challenge is to give consistent service to customers irrespective of the kind of customer whether rural or urban. Retention of customers is going to be a major challenge. Banks need to emphasis on retaining customers and increasing market share. Even with ATM machines and Internet Banking, many consumers still prefer the personal touch of their neighborhood branch bank. Technology has made it possible to deliver services throughout the branch bank network, providing instant updates to checking accounts and rapid movement of money for stock transfers. However, this dependency on the network has brought IT department's additional responsibilities and challenges in managing, maintaining and optimizing the performance of retail banking networks. Illustratively, ensuring that all bank products and services are available, at all times, and across the entire organization is essential for today's retail banks to generate revenues and remain competitive. Besides, there are network management challenges, whereby keeping these complex, distributed networks and applications operating properly in support of business objectives becomes essential. Specific challenges include ensuring that account transaction applications run efficiently between the branch offices and data centers. Banks in India will now have to work towards a vision to have an enhanced retail delivery system. Such a system would include transformed branches, enhanced telephone services, and leading-edge internet banking functions that provide a consistently positive multi-channel experience for the customer. Some of the challenges that the banks are facing today are:

- Competition from Multi-National Companies
- Coping with regulatory reforms
- Diminishing customer loyalty
- Intense competition between banks
- Keeping pace with technology up-gradations
- Maintaining high quality assets
- Managing diversified needs of customers
- Problem of Non-Performing Assets (NPA) and interest rate environment

The banking industry is changing at a phenomenal speed. While at the one end, we have millions of savers and investors who still do not use a bank, another segment continues to bank with a physical branch and at the other end of the spectrum, the customers are becoming familiar with ATMs, e-banking, and cashless economy. This shows the immense potential for market. Banks are setting up alternative delivery channels to contain operating costs like off-site ATMs, internet banking, telebanking, outsourcing, centralized transaction processing, etc.

No doubt, the benefits of technology have brought a sea-change in the outlook of modern banking. Now the goal of banking is not just to satisfy but to engage with customers and enrich their experience and for the successful achievement of this goal, the only sustainable competitive advantage is to give the customer an optimum blend of technology and traditional service. With technology occupying a pivotal role in delivery of banking services, the expectations of the consumer have also been growing. Broadly, these expectations are swift service with minimal response time, efficient service delivery, tailor-made and value-added products to suit specific needs, hassle-free procedures and minimum transaction costs, and pleasant and personalized service.

9.0 CONCLUSION

India is one of the top ten economies in the world, where the banking sector has tremendous potential to grow. The number of ATMs has doubled over the past few years, with approximately 2,00,000 in the country at present. Also, the scope for mobile and internet banking is big. At the start of 2013, only 2 percent of banking payments went through the electronic system in the country. Today, mobility and customer convenience are viewed as the primary factors of growth and banks are continuously exploring new technology, with terms such as mobile solutions and cloud computing being used with greater regularity. However, Indian banking industry faced the numerous challenges such as increasing competition, pressure on spreads, and systemic changes to align with international standards have necessitated a re-evaluation of strategies and processes in order to remain competitive in this dynamic environment. Banks have to adopt a holistic approach to fulfill the ever changing needs of customers and to grab a better market share. Development of sophisticated products with low cost technology is the key. This calls for in- depth analysis of customer needs the market and competitor trends. This analysis plays a very important role in devising new strategies, products and services. Due care will have to be made while embracing technology and transforming traditional touch points to electronic ones, so that human touch with customers is also not lost. In the end, it can be rightly said that productivity and efficiency will be the watch words in the banking industry in the years ahead. Strategizing organizational effectiveness and operational efficiency will govern the survival and growth of profits; besides bringing changes in the mindset of the employees, which is imperative with the changing times.

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LITERACY AND LITERARY PROGRAMMES AND THEIR IMPLEMENTATION IN INDIA

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ABSTRACT

India is the second highest populated country in the world, it was achieved 67% of literacy and 33% will be inroad because of poverty, religion, school environment community, social cultural condition. To overcome from this Govt. has taken strong will and steps to eradicate illiteracy from India by providing free education, books for 1st to 10th standard for both boys and girls and give more importance to girls education for all the communities to bridge the general gap at elementary school level by 2001 to 2011, this makes citizens educationally strong and meet their demands and those of their family needs by increasing their productivity and their potential to achieve a higher standards of living. Govt. has made special scheme for backward classes such as scheduled tribes and scheduled castes in the name of Tribal special programme. and also Government has introduced several programmes towards the society like Akshara scheme, Akshara Deepa, sarvashikshana abiyana etc. In this way the Government has taken the decisions to overcome from the illiteracy in this country.

KEYWORDS

literacy, community, UNESCO, UNICEF, backward classes, Bharata darshana, Aganawadis, saksharata.

INTRODUCTION

Literacy the world itself indicates that it's not only education of the human beings, it is to prepare them to live life with the society how to interact with others. Literacy is one of the most important aspect of social development and also the integral part of human development it is a basic human need. Therefore, opens unlimited possibilities calling for responses that are creative constructive and challenging. Literacy is now part of the human rights and index of their development. Education deepens their understanding of themselves and the world. There are so many programmes are undertaken by state and central government for the education of human to make them literates.

LITERACY

Literacy is one of the most important aspects of social development and also the integral part of the human development. it is a basic human need. Therefore, opens unlimited possibilities calling for responses that are creative constructive and challenging.

Literacy and defined as senses operations is the ability to read and write with understanding in any language.

Mahatma Gandhi ji said that education of a boy means education of men, education of girl of education of a family.

Education has the dual function of transmitting to the new generation, the waitage of the past with its accumulate wisdom and preparing it for the present and the future, that the emergent needs of society and individuals hold before us.

India has emerged as a leader in the current knowledge based global economy and Karnataka state as forms to literacy at grass root level also. The literacy and education have been termed as the essential requirement of the society against the social evils.

IMPORTANCE**1. LITERACY AND HUMAN RIGHTS**

Literacy is now part of the human rights. Most of the nations of the world have also accepted their obligation to provide at least free elementary education to their citizens.

Article 26 of the universal declaration of human rights declares that Everyone has the right to education, education shall be free, at least in the elementary and fundamental stage, elementary education shall be compulsory. Technical and professional education will be generally available and higher education shall be equally accessible to all on the basis of merit.

This right is also repeated in the on declaration of the rights of the child which seeks to ensure right to free and compulsory education at least in the elementary stages and education to promote general culture, abilities, judgment and sense of responsibility to become a useful member of society and opportunity to recreation and play to attain the same purpose as of education.

India has ratified the above, and these have thus the poser of domestic laws, from the human rights perspective constitutional guarantees arise automatically.

2. LITERACY AND HUMAN DEVELOPMENT

Literacy is now part of the human development index. Government of India has also accepted this position and one of the important components in the National Human development initiative announced in the union budget 1999-2000 is education forming also a component in the prime minister's special action plan.

By improving people's ability to acquire and use information, education deepens their understanding of themselves and the world, enriches their minds by brooding their experience and improves the choice they make as consumers, producers and citizens education strengthens their ability to meet their wants and those of their family by increasing their productivity and their potential to achieve a higher standard of living. by improving people's confidence and their ability to create and innovate, it multiplies their opportunities for personal and social achievement.

In the field of development economics, literacy holds an important place as a parameter to measure development one of the three components used in the calculation of H.D.I. is literacy as it is a cumulative measure of several factors that contribute to human development.

Education is thus viewed as an integral part of national development; development is not only economic growth rather it compared is not only economic growth rather it comprehended opportunities to all people for better life with man as end of development are linked in a variety of ways.

EDUCATION AND SOCIAL TRANSFORMATION

Indian constitution has recognized the significance of education for social transformation. It is a document committed to social justices. Preamble affirms a determination to secure liberty of thought, expression, belief faith and worship and equality of status and opportunity and to promote amongst the people a feeling of fraternity, ensuring the dignity of the individual and the unity of the nation.

Literacy forms the cornerstone for making the provision of equality of opportunity a reality. The objective specified in the preamble contains the basic structure of the constitution, which cannot be amended and the preamble may be invoked to determine the ambition of fundamental rights and directive principles of state policy.

We think that the right to life includes right to live with human dignity and all that goes along with it namely the bare necessities of life such as adequate nutrition, clothing and shelter and facilities for reading, writing and expressing oneself in diverse form, freely moving about mixing and mingling with fellow human beings.

HISTORY OF LITERACY

If we come to know the literacy rate. There was a big gap between men and women that is total literacy rate was 19.23 % in urban and rural area was 21.23%.

In the total Indian population 3,04,34,962 are literates. Among them 1,76,61,211 were men, 1,27,13,751 were women. This shows the decrease or loss of women literacy in India.

There is also a gap between district of Karnataka, Dakshina Kannada occupied first place in having 83.35 % of total literacy 8 districts had literacy rates of within 50% and in districts in rural area had literacy rates of within 50% Gulbarga 29.43% Raichur in rural 28.26%

The literacy rate of SC and ST is 58.87% total population of the district from this man were 63.75% women were 41.72% in Bangalore 70.23% in Raichur 38.76% This shows that literacy is one of the major problem forced by every states mentioned and also in the whole world. And hence to fulfill these gap and make of people educator. Indian govt. took plenty of programmes from pre independence to post independence so that Karnataka also adopted so many literacy programmes and implementation to make the people literates.

National adult education programme was started in 1978 under the NAEP the rural functional literacy programme and state adult education programme were started.

State Govt. started the Akshara scheme in 1983 and Akshara deepa in 1983 which called special literacy programme.

1986 mass programme for functional literacy was led by four years. By starting the national literacy mission in 1988 the state literacy programme has become more important.

LITERACY PROGRAMMES

India has emerged as a leader in the current knowledge based global economy and Karnataka state has focus to tackle illiteracy at grass root level. The literacy and education have been termed as the essential requirement of the society against the social evils.

Within the national policy frame work the department of mass education, has the mission to provide lifelong and continuous, has the mission to provide lifelong and continuous education and to create a learning society through provision of comprehensive educational facility in every village to enable learners, neo literates and dropouts to continue their learning skills beyond literacy the KSLMA has implemented many literacy programs through Zilla saksharatha Samithi rates was not clear and to completely eradicate illiteracy polydenate approach is required to achieve the literacy level of the developed society.

The impact of the following literacy programmes should clearly show and from the major thrust areas like acquiring, using and improving literacy skills by day to day practice. Leading to life enrichment / quality life improvement and an impact on the different aspects of society in Karnataka.

1. CONTINUING EDUCATION PROGRAMME (C.E.P)

Continuing education programme was launched to provide lifelong learning opportunity to all beyond basic learning and primary education. This program was designed to reinforce strengthen and develop the literacy and other skill gained by the neo- literate through the non-formal literacy program. The objective of the program was to provide comprehensive educational facility in each village for retention, up gradation continuation and application of literacy skills to enable learners, neo literate's dropouts and all those who are interested to continue their learning skill beyond basic literacy.

For every 2000- 2500 population one continuing education centre (CEC) and for every 10 continuing education centres, one Nodal continuing education centre (NCEC) have been established.

The CEC, and NCEC are managed by the breraks and assistant preraks who are members of the local community. they are paid a nomial honorarium presacks conduct activities like neo – literates class, reading room, library characha mandal. Information centre, sports and cultural activities, training mobilization of the people etc. the assistant preach runs the learning centre for 20 non literates for every 6 months assist the preach.

2. LITERACY THROUGH STUDENTS (L.T.S)

Literacy through school students is a new programme to kindle social responsibility among youth and thereby to bring the change in the society. It is aimed at involving the students in the process of literacy campaign. The programme emphasizes literacy programme implemented through students studying in 9th and 11th standards. Each student's teacher to non-literates.

Z.S.S. identified the non-literates and matching batching is made at the school level. Training on teaching methodology is imported to students by the resource person in the same institution. Teaching learning process is for 5 months and at the end of 5th month evaluation of the learners is being conducted. This Programme is operational in 24 districts.

3. CAMP BASED LITERACY PROGRAMME

New approach of providing literacy rapid learning camps. On – going rapid learning campus are targeted to cover SC/ ST non – literates under SCP and TSP components. Each camp conducted for 50 learners. The durations of the camp is 30/60 days.

Directorate of mass education has invited for a research proposal to assess the impact of all literacy programmes as mentioned above.

4. EDUCATION FOR ALL – AN INDIAN SCENARIO

In December 1993, the first ever education for all submit was hosted by India attended by leaders of nine highly populated developing nations of the world. The submit reaffirmed the global commitment to provide basic learning opportunities to all peoples.

The submit sponsored by UNESCO UNICEF and UNFPA (and the world bank) saw the participation of 23 other international organizational and carried forward the vision of the 1990 world conference on education for all held at jonstien. One of the deliberations of the conference focused an education for girls, women and empowerment of women.

The focus of the Delhi declaration and the programs of action adopted to empowerment the pledge taken by nations and organizations at the summit, resets on universal primary education and universal literacy with a special emphasis on removing gender disparities.

5. PROJECT FOR ERADICATION OF RESIDUAL ILLITERACY (P.R.I)

This is on- going program in 14 districts and expected to be junction for 3 more districts each district is divided in number of clusters each cluster would have minimum 5 gram panchayath 2-3 worlds. The districts are under preparatory work and will start the teaching learning process by 1st week of June after conducting the tracing the volunteers.

6. SPECIAL COMPONENT PROGRAM / PLAN (S.C.P.)

Special compound plan is designed to channelize the flow of outlays and benefits from the general sectors. In the plans of the states and the central ministries for development of scheduled castes at least in proportion to their population to the total population. Twenty-one state and three union territories are formulating their respective special component plan. The special plan of the states is supplemented with special central assistance with a view to creating a multiplier effect and helping fill the gaps which the normal financial flows from the central and state plans are not able to provide.

SPECIAL CENTRAL ASSISTANCE (S.C.A)

To special component plan of the state/ UTS for scheduled castes people is linked to government of India's strategy for the socio economic development of these people. the centrally sponsored scheme and the most important programme of the ministry of welfare for the alleviation of the poverty among scheduled caste people. the underlying objective SCA which provides hundred percent (poverty among scheduled caste people) grant to states and UT,s as an additive to their special component plans is that it would be used to give un added thrust to the development programmes for ST people with reference to their occupational pattern and the need for increasing the productivity of and income from their limited assets by taking up family oriented schemes for them the SCA is use to fill the critical gaps and vital missing inputs in family oriented income generating schemes and through non- recurring items, so as to make the schemes more meaningful and effective.

India order to implement economic development programmes for scheduled castes living below the poverty line and specially to mobilize institutional credit and credit at concessional rate, the government of India decided in 1978 – 79 to participate in the share capital of scheduled castes development corporations (SCDCS) in the state/ UTs with significant SC population. At present 23 corporations are functioning in the country. The corporations are functioning in the country. These corporations have been established with the basic motive of implementing welfare oriented programmes for downtrodden and to life them from the poverty line not merely quantitatively but also in quantitative terms.

TRIBAL SPECIAL PROGRAMMES (TSP)

There are so many programmes held by Government to the upliftment of scheduled tribes particularly in the field of education.

1. EDUCATION

It is clear that backwardness in education is an important cause for economic backwardness. Central and state government, attach greater importance to scheduled tribes economic progress.

Under this scheme 43 Balawadis were setup. This excludes the balawadis run by social welfare department. The scheme is meant to develop attitudes in learning to encourage children for accelerating the development of their intellectual capacity to make them strongly attached to hygienic circumstances.

2. NURSERY SCHOOLS/ SINGLE TEACHER SCHOOLS

The scheduled tribe development dept. runs 14 nursery schools and 12 single teacher schools. The children studying in nursery schools are given free mid- day meals and dress in addition to lump sum grant. The single teacher schools set up with the intention of creating awareness about education, health and cleanliness of the surroundings among the scheduled tribes, especially among those who dwell in for areas and spread education among their children's.

3. GRANT TO PARENTS

The scheduled tribe's students who seek admission in boarding are being paid Rs. 200 per month apart from free uniform cloths

4. EDUCATIONAL FACILITIES UP TO THE HIGH SCHOOL LEVEL

Apart from giving full free concession to all scheduled tribe's students lump sum grant and special stipend are also being given to them. In the case of students. Who fail in the final examinations of one class are being given half the amount of lump sum grants.

5. HOSTEL FACILITIES

One hundred and eleven parametric hostels and 3 GRB schools and being run to help the education of ST students. It is those students who do not stay within reasonable distance from the school are beneficiaries. 30 students are given accommodation in each hostel.

6. EDUCATIONAL RECREATION CENTRES.

Educational recreation centres are being run in the scheduled tribes residential centres. these centres are being provided with furniture, books newspapers and recreational aids.

7. ENCOURAGEMENT IN ATHLETICS AND ART FORM

Prizes are given to scheduled tribe's students who score victories in art and sport activities at the state level in the following manner. Who get the first and second place at the state level competitions, prize is given at the rate of Rs. 400 and Rs. 300 for district level winners Rs. 300 to Rs. 500 is offered.

8. PRE- EXAMINATION TRAINING CENTRES

The training candidates for appointment to the vacancies notified by the Kerala public service omission, union public service commission, banks and other institution of public sector. 3 pre- examination training centres are functioning in Thiruvananthapuram, Ernakulam and Kozhikode district.

9. COLLEGE EDUCATION

Students of the scheduled tribes are being exempted from paying fees including the examination fee. In addition to the above, they are given lump sum grant and monthly stipend at various rates.

10. SELF-EMPLOYMENT

Candidates who have undergone training in technical subjects are being given financial assistance for all self-employment to the time of Rs. 3000. the scheduled tribes and scheduled casts development corporation carrying out various projects in this connection.

11. ASSISTANCE FOR AMRID

To find out training for self-employment, vocational training, campus of leadership training and providing tutorial facilities for students failing in SSLC and pre degree examination etc.

12. ASSISTANCE FOR STUDY AT TUTORIALS

Students who fail in SSLC examinations are given assistance in the following manner lumps um grant Rs. 100 monthly stipend Rs. 600, tuition fees Rs. 450 assistances are being made available to students who fail in pre-degree examination also.

13. BHARATHA DARSHAN/ KERALA DARSHAN

30 boys who scored high marks in SSLC examination are selected for Bharath darshan program of 20 days where as 30 girl's students are selected for Kerala darshan program.

Like this the government provided all the facilities to scheduled tribes.

IMPROVEMENT OF LITERACY RATES

More than the decline in population growth rate, it is the spurt in literacy rates that makes the present census stand out from other in the post independent India more than three fourths of our made population and a little more than half of the female population are now literates.

Thus one third of our population still do not process even the basic proficiency in literacy. During 1991-2000 literacy rates improved imprecisely from 52.21% in 1991 to 65.38% is 2001. Thus showing an improvement for more than 13% of points.

More interesting aspects of improving literacy rates is the significant increase of 14.87% points is the significant increase of 14.87% points in case of female literacy rate, which is more than the increase in the female literacy rate, which increased by 11.72% However, still the male/ female differential in literacy rate is of the tune of almost 22% this is also repeated in sex ratio among literate population which is as low as 667 compared to 933 overall sex ratio. Despite the decline in number of illiterates and improved literacy rates. India has to go a long way to achieve the goal of universal literacy. The program in literacy during the previous decade looks impressive mainly because of the fact that during the last four decades the name remained very low and only a little progress should be achieved. Because of the parental thirst for education the literacy rates have now reached to somewhat reasonable levels. Therefore, a literacy rate at 65% appears quite credible. It is rather a matter of great concern that though Kerala attained 65% literacy way back in 60 many status even now have literacy rates well below the national average of 65% the more detailed census data when available will throw more light on the status of literates being produced However 1991 census suggests that about 25% of the total literates were just literates without completing even primary education as mentioned above the census definition of literacy in ability to read and write, but even the poorest of parents want their child to complete a bare minimum elementary education.

TABLE 1: LITERACY RATES IN INDIA: 1950-2001

Census Year	Total Literate people	Male literates	Female literates.
1951	18.33	27.16	8.86
1961	28.30	40.40	15.35
1971	34.45	45.96	21.97
1981	43.57	56.38	29.71
1991	52.21	64.13	39.29
2001	68.38	75.85	54.69
2011	82.59	85.82	79.36

The increase during 1991-2000 was the lowest in case of kerala (1.11%) followed by chandigarh at least in the case of Kerala and Chandigarh is mainly because of their base year (1991) literacy rate, which were as high as 89.81%, 77.81% respectively. In 2001 also Kerala had the highest literacy rate (90.22) followed by mizoram (88.44%) lakshadweep (87.52%) Goa (82.52%) Delhi (81.82%) Dadra and Nagar Haveli (81.09%). 2001 census Evaluating the trends to population and literacy.

Provisional data regarding population, decadal growth, density, literacy and gender ratios of the Indian population has recently become available and although there has been some important gain since the last Indian census from 1991, there are some exceedingly disturbing trends in the data that has been published so far.

On the positive side some of the most dramatic improvement in literacy have been seen in what were previously considered as highly back ward states, called Rajasthan, Chhattisgarh and Madhya Pradesh whose literacy rates have now reached close to the national average.

TABLE 2

States	Decadal Growth	Literacy 2001
Rajasthan	22.5%	61%
Chhattisgarh	23.3%	65.2%
Madhya Pradesh	19.4%	65.1%
India	13.75%	65.4%

PROBLEM FOR GROWTH OF LITERACY

1. FAMILY ECONOMIC CONDITION

Generally, economically backward family, many parents send their daughters to school. The cost of education to families which living in poverty is not affordable while in many countries primary education is free, a poor family may not be able to meet the cost of school uniform, school supplies and other miscellaneous expenses. The opportunities cost of education is also a consideration for poor families. if the girls are sent to school, the family gives up the income from girls who work to supplement family income.

2. COMMUNITY SOCIO CULTURAL CONSIDERATION

The low status of women in the selected countries is a major factors lindering girl's enrolment and retention, since most of the societies are male oriented and male dominated community and parental attitude. Towards girl's education count a lot in decisions affecting girl's education.

3. LOW LEVEL FAMILY EDUCATION

Studies also revealed correlation between the level of education of the family and that of girl's education. A study by S.A Qader and S.K Kunder showed that the highest correlate of participation was the highest level of education attained by the household., followed by the family heads education

4. GIRLS ATTITUDE TOWARDS EDUCATION

This factors may be attributed as a concomitant result of the three previous problems as well as other in school factors. The problems of the attitude of the girls themselves must be separately addressed girls because of the low status afforded parents, are bound to have low self-esteem and would perceive themselves as inferior to boys, their motivation for schooling is very low since their parents are ignorant or don't see the benefits of education for girls.

5. PHYSICAL ENVIRONMENT OF SCHOOL

By reason of geography and topography school sometimes are at a considerable distance from the homes of girls. Going to school becomes inconvenient for the young children specially girls traveling a long distance to school also may cause a special hazard for older girls. Parents fear that they will be more exposed to sexual liaison or sexual harassment while traveling

6. LACK OF FEMALE TEACHERS

In a tradition bound society preference for female teachers has been recurring (note parents feel more comfortable when their girls are under the care of female teachers). In most cases, trained women teachers who would be willing to be posted in rural schools.

7. CURRICULUM

Generally, the school curriculum has been described as being irrelevant to needs of girls. In some case, it is so urban oriented that rural girls feel even more alienated. The curriculum is overloaded and unsuited to the development levels of the children.

8. IRREGULAR SCHOOL SUPERVISION

Effective supervision of school is hampered by several problems. There are too few supervisions to cover the vast areas that need to covered some of which are virtually inaccessible moreover supervisors have to look into multifarious concerns where in the problems of girl's education may not be a specific one.

9. GIRLS BRIDGING THE GAP

The gap between boys and girl's participation in elementary education is the biggest single gap that needs to be filled for universal action the problem of UEE is in essence. The problems of girl child. The gender disparity. Particularly in the rural areas, reflects the discriminating social attitude to the girl child.

Therefore, in addition to monetary inputs, interventions have to be specifically designed to bring about a change in attitudes.

India is going to host and international meet on education with focus on girl's education, the meet is to evolve strategies to bridge the gender gap at elementary school level by 2001. India is committed to not only impart elementary education to all children of 14 years by that year but also to ensure that girls do not lag behind the boys in education.

CONCLUSION

India is the second highest populated country in the world it comes under the pressure of various administration and foreign invention due to which lack behind in the field of education there was no proper importance was given during the foreign administration after. After independence much importance is given to education as a result of this India has achieved about 67% of literacy still 33% literacy was to be inroad there are many reason for the illiteracy in India like poverty religion, school environment community social. cultural condition. Low level family education etc. the govt. has taken many steps in regard by introducing adult education program for which a separate department is open which is working hard in this direction.

Even govt. has provided nursery's anganawadies aakshara dasoha programme and free book supply upto 10th std free education for 1-14 years govt. has taken strong will & steps to eradicate illiteracy from India, and made India meaning full democratic country.

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THE DEVELOPMENT OF MANAGERIAL WOMEN OF BELOW POVERTY LINE SELF HELP GROUP IN DISTRICT GONIDA IN MAHARASHTRA

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ABSTRACT

Organization plays a major role in the development of managerial women. The purpose of this paper is to see if managerial women in Maharashtra. Maharashtra is chosen with the special reference to Gondia District. Self help group are gift of 21st century of our country. our country is occupied by villages mainly maximum population is located in rural areas, small colonies currently population of our country is more than 115 corers and out that 70% population is in rural areas and concern with country is called as agriculture country 35% of our population is literate and rural areas it is less 20-25%. It is fact that poverty follows illiteracy. In this condition principle of women self dependent saving unit will be ray of light for our country to fix the critical problem of our country.

KEYWORDS

agriculture, illiteracy, managerial women, poverty, self help group.

1. INTRODUCTION

The movement saving unit for the social economic development of our country for the case and convenience of illiterate and literate people complicated documentation is not compulsory and it also doesn't need. Saving unit for security deposit for loan. In fact, without seeing the ability of those who are in need distributing the loan is the policy of bank. It studies the movement of saving unit of previous decade we will observe that helpless and needy have paid back around 98.7% of their loan. It has proved that the loans given security deposit are working efficiently and are paid back honestly.

Self help group is a simple, easy concept. It is a of minimum 10 and maximum 20 women, Which doesn't need registration. It is the contains more than 20 women's then only it needs registration. It must have a name also for this saving units all the members will have to decide contribution fees, time of meeting. In short registered saving unit will have to maintain all the record and all the accounts. Profit gained by saving unit will have to pay in bank by opening an account in the name of unit. All the members will have to decide the topic for the discussion in meeting. All the member we have to participate in discussion collected fund we have to distribute among the member of unit in the form of loan by cheque for their recovery monthly or weekly installment will have to be decided and 2% or 3% interests should be taken on it saving unit should organize social cultural, educational health program regular, saving unit can be supervised and given loan by bank. This opportunity should be grasped by saving unit and their needy members to bring out the development of the financial weals.

2. NEED OF THE RESEARCH

The B.P.L. Self-help group is more important for our society. Because the B.P.L. Self helps groups are giving information regarding development of social awareness and increasing contribution of woman to takeout profit of saving group. It is necessary for the advertisement of woman saving group to use of this self-help group.

3. IMPORTANCE OF THE STUDY

1. To make people alert to such injustices as poverty, discrimination and violence and to transform the power into action for social change.
2. To promote understanding, co-operation and harmony among different castes communities.
3. To promote education and environment awareness among the village communities.
4. To promote cleanliness, hygiene and make the villages free from sanitation problems.
5. To promote local employment opportunities to discourage migration to the cities, others spread in the villages.

4. OBJECTIVES

1. To conduct several welfare project of government in order to provide job opportunities to women.
2. To provide shelter to helpless people.
3. To provide vocational training to improve the economic condition of such women. Rehabilitate helpless women.
4. To attain above given goals run 'Mahilashram' and Women's training guidance centre.
5. To educated illiterate conduct adult education centre.
6. To provide 'vrudhaashram', 'Rest house', 'Sanskar Kendra hostel'.
7. To run vocational and technical training colleges and to open Industrial training centre.
8. To encourage family welfare programs. To create awareness among people to organize camps to persuade people for family welfare.
9. To celebrate national festival and public program.
10. To do necessary co-operation for development on women's.

5. HYPOTHESIS

The self help groups are progress in rural area in women field. To need for vocational training to improve the economic condition of such women. Rehabilitate helpless women. To the necessary of attain above given goals run 'Mahilashram' and Women's training guidance centre.

To do necessary co-operation for development on women and in courage people for small saving, create social awareness, educate illiterate women and motivate them for social work.

6. RESEARCH METHODOLOGY

Area research is defined as the systematic design, collection, analysis, and reporting a data findings relevant to a specific area situation facing the saving group. The Gondia district in self help group are total 480 members are fill up questionnaires form by through the meeting and collect primary data. Each Taluka in Gondia district are fill up by 6 members questionnaires form in 10 villages are collect the data through the personal interview. Each Taluka will be selected 10 villages and each village will be selected 6 members of available B.P.L. self help group by the random sample method.

A critical evaluation of the working of below poverty line self help group in Maharashtra (with special reference to Gondia District). The following data is collected:

SAMPLE SIZE

A total of 7482 respondents were convenient administered the questionnaires' from among those who were present on the day of the survey. Participation in the study was on a voluntary basis and the respondents were provided with assurance of confidentiality and anonymity.

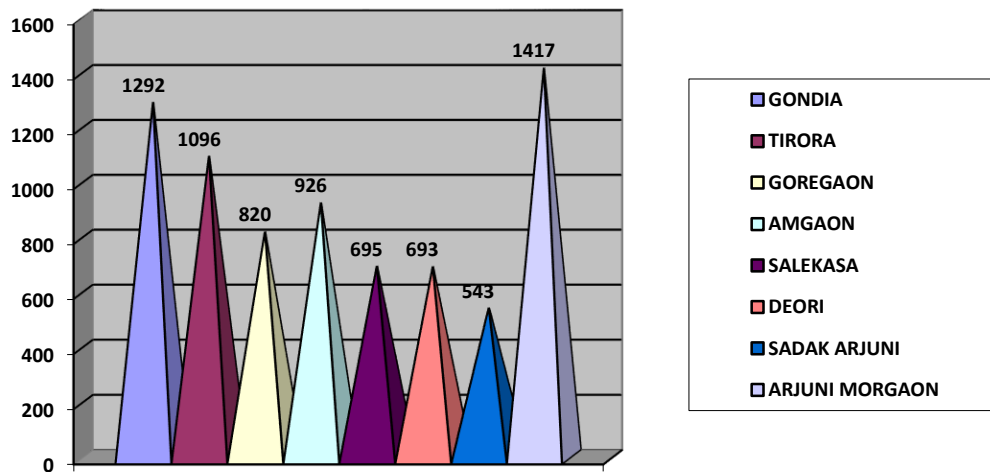
7. ANALYSIS

The respondents were mostly in the name of the 8th Tehsils.

TABLE 1: GONDIA DISTRICT

NAME OF TAHSIL	NO. OF VILLAGES	NO. OF BACHAT GAT
Gondia	153	1292
Tirora	125	1096
Goregaon	99	820
Amgaon	83	926
Salekasa	92	695
Deori	135	693
Sadak Arjuni	108	543
Arjuni Morgaon	159	1417
TOTAL	954	7482

GRAPH 1: SHOWS NO. OF BACHAT GAT TALUKA WISE



8. DISCUSSION & CONCLUSION

According to the report of SHG women should get involved in small sector industry and household industries each saving unit should choose different type of business to avoid likeness. Saving unit should try their hands in transportation business and promotion of group of responsible women will lead towards the buildup of the strength of utility and will give contribution in building up the nation. Poverty and unemployment are the two major problems of under developed countries, to which India is no exception. In India, at the end of the ninth five-year plan, 26 per cent of the population was living below the poverty line and in the rural area; the percentage is slightly higher (27.10%). The overall employment rate is estimated to be at 7.32 per cent, while the female employment rate is around 8.5 per cent. But, the rate of growth of women unemployment in the rural area is estimated to be around 9.8 per cent. This is because of the low growth rate of new and productive employment opportunities. By the end of ninth plan, the rate of growth of employment was only 2.47 per cent. Therefore, the union government has implemented various schemes to reduce poverty and promote gainful employment opportunities. But, the most attractive scheme with less effort is the "Self Help Groups". [It is a tool to remove poverty and improve rural development].

- About 68.8 per cent of the SHG members were found to be literate and only 10.87 per cent of them were illiterate.
- With respect to family type, 66.85 per cent of the respondents belonged to nuclear family and about 33.15 per cent to medium family size (ranging between 4 to 6 members per family)
- The respondents belonging to landless category were less than 50 per cent in the study area. More than 50 per cent of them were dependent on agriculture for their livelihood.
- Nearly 49.71 per cent of the SHGs had undertaken economic activities individually, followed by 26 per cent of them undertaking collectively. Whereas, remaining 24.29 per cent of them did not take up economic activities either individually or collectively.

9. SCOPE OF FUTURE RESEARCH

The movement of saving unit for the social economic development of our country for the case and convenience of illiterate & literate people complicated documentation. Saving unit for security deposit for loan. In fact, without seeing the ability of those who are in need distributing the loan is the policy of bank.

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PROBLEMS AND PROSPECTS OF KUDUMBASREE LINKED MICRO ENTERPRISES

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ABSTRACT

The educated Indian women have to go a long way to achieve equal rights and position because traditions are deep rooted in Indian society where the sociological set up has been a male dominated one. Despite all the social hurdles, Indian women stand tall from the rest of the crowd and are applauded for their achievements in their respective field. Kudumbasree is an innovative women centered, state poverty eradication programme in rural and urban areas of the state of Kerala. It aims at eradicating absolute poverty, with in a definite time period, under the leadership of local governments. Kudumbasree is a holistic, participatory, women oriented innovative poverty reduction approach. It envisages prosperity of the economically backward families of the state. Kudumbasree linked micro enterprises play a vital role in poverty alleviation and socio- economic development of the marginalized, and help to bring about equitable and balanced economic development with low amount of capital investment. Women owned business is one of the fast growing segments of micro enterprises. Increased income in the hands of women is invested in health, education and housing of their families. The present study about problems and prospects of Kudumbasree linked micro enterprises analyses problems faced by micro enterprises, the reasons for irregularity of income for these types of units and the quantum of investment in current and fixed assets by these units.

KEYWORDS

Kudumbasree, irregularity of income, micro enterprises.

INTRODUCTION

Kudumbashree is a female-oriented, community-based, poverty reduction project of the Government of Kerala. Kerala is an Indian state lying in the south-west part of the Indian subcontinent, where many development experiments are being tested, refined and implemented. "Kerala Model" is being widely discussed all over world for socio- economic progress of the people. Kudumbashree project is an offshoot of Swarna Jayanti Shahari Rozgar Yojana (a project initiated by Govt. of India for urban poverty alleviation implemented in 1997) 75 per cent of the project is funded by the central government and 25 per cent is funded by the state government.

The mission aims at the empowerment of women, through forming self-help groups and encouraging their entrepreneurial or other wide range of activities. The purpose of the mission is to ensure that the women should no longer remain as passive recipients of public assistance, but active leaders in women-involved development initiatives. Kudumbashree movement was launched on May 17, 1998. Kudumbashree means prosperity of the family in Malayalam, the language spoken in Kerala.

The following are the community structures suggested for the rural side:

- **KUDUMBASHREE AYALKOOTTAM (NEIGHBOURHOOD GROUPS)**

NHG, the lowest tier constitutes the Neighbourhood Group with 10 to 20 women members selected from economically backward families. Meetings are convened on a weekly basis in the houses of NHG members. In the weekly meeting all members bring their thrift, which will be collected and recycled, to the system by way of sanctioning loans.

- **KUDUMBASHREE WARD SAMITHY (AREA DEVELOPMENT SOCIETY)**

ADS, the second tier which is formed at ward- level by federating all the NHGs in the ward. The activities and the decision in the ADS are decided by the representatives of the women elected from various NHGs.

- **KUDUMBASHREE PANCHAYAT SAMITHY (COMMUNITY DEVELOPMENT SOCIETY)**

CDS, at the Panchayat / Municipal level a Community Development Society a registered body under the Travancore-Cochin Literacy Scientific and Charitable Societies Act, is formed by federating all ADSs in the local bodies.

The paradigm shift in the approach is that any woman who is residing in the Grama Panchayat can become a member of the Kudumbashree Ayalkoottam irrespective of whether she is in a below poverty line (BPL) family. Since this aspect gives an opening for the above poverty line (APL) families to enter into the community structures envisaged by Kudumbashree, it is further ensured that majority of the office bearers should belong to BPL families. These structures give added importance to women empowerment both social and economic.

MICRO ENTERPRISES

Micro enterprise is any income generating activity owned, operated and managed by a group, consisting of at least five and not more than fifteen women members of the Kudumbashree NHG s with an investment ranging from Rs 5000 to Rs 5 lakh and should have a potential to generate at least Rs 1500 per member per month by way of wages or profit or both together, with an expectation of turnover ranging from Rs 1 lakh to Rs 5 lakh per year".

Supporting and sustaining micro enterprises has always been a challenge for development administration. Problems of scale, capability, market and vulnerability do not offer easy solutions. In the recent past Kudumbashree has been attempting to analyze and resolve these problems specifically and jointly, both by increasing the interface with the Local Self Government (LSG) and the entrepreneur regarding existing programmes, and by bringing new strategies and new programmes that help converge resources and address arising issues proactively and creatively.

LITERATURE REVIEW

Kudumbasree Mission (2006) analyzed the plethora of problems faced by the micro entrepreneurs. Issues such as lack of proper marketing, Micro Enterprises market for products, shortage of raw materials, lack of quality, and unscientific methods of quality assessment, lack of modern technology and lack of funding were recognized as problem areas.

TK Jose, Executive Director of Kudumbashree (2006) commented that Kudumbashree views Micro Enterprise Development as an opportunity for providing gainful employment to the people below poverty line and thereby improving their income and living standard. In setting up of Micro enterprises for the poor and enabling to take up livelihood activities Kudumbashree has developed its own methodology. So far 27477 women from urban area and 2.07 lakh women from rural areas were given the sustainable self-employment opportunities with reasonable income.

Santhosh Kumar (2011) conducted a study on poverty eradication mission of the State of Kerala, where it has been instrumental in facilitating the formation of women groups, micro-enterprises, provision of administrative and financial aid and monitoring the microfinance activities in the State. The present micro study about the Kudumbashree linked micro-enterprises in three panchayats of the Ernakulam district of Kerala reveals the general and economic prospects of the enterprises along with different problems confronted by micro-entrepreneurs. It also advocates the strategies to be adopted by the enterprises, and promotional agencies to overcome the problems and survive in the competitive environment.

The study conducted by Shreedevi. S. Sardagi (2012) found that the women's empowerment would be able to develop self-esteem, confidence, realize their potential and enhance their collective bargaining power. The SHGs are a potential source to empower and institutionalize participatory leadership among the marginalized and to plan for initiative development activities. The SHGs in India have come a long way since 1992, this spread has been phenomenal. SHG-bank linkage programme and most of these groups are usually women groups. Therefore, the SHGs are successful in the empowerment of women.

OBJECTIVES OF THE STUDY

In the above backdrop, the objective of this paper is set as follows:

- 1) To identify the quantum of investment in Kudumbasree Linked Micro Enterprises.
- 2) To assess the reasons for irregularity of income of the Kudumbasree Linked Micro Enterprises.
- 3) To examine major problems faced by the Kudumbasree Linked Micro Enterprises.

HYPOTHESES OF THE STUDY

In order to make the study scientific the following hypothesis has been formulated and tested.

HO₁ : The opinion regarding micro enterprise units regarding difficulty in raising funds from the financial institutions are the same.

HO₂ : The opinion score of the micro enterprise units regarding the different problems faced by them are same irrespectively the nature of economic activity.

METHODOLOGY OF THE STUDY

The study is descriptive and analytical in nature. The study is limited to Kudumbasree linked micro enterprises in Vengola Grama Panchayat (Local Self Government Body) of Ernakulam District, Kerala. Altogether, there are 58 Kudumbasree linked micro enterprises operating in the Grama Panchayat, which are engaged in various economic activities like production, trading and service. 52 units are operating in production activities which comprises of food products, animal husbandry and tailoring, out of which 14 each are engaged in food products and tailoring and 24 units involved in animal husbandry. 3 units each are engaged in trading and service activities. Sampling size has been selected 50 per cent of the units engaged in various economic activities. The sample units were identified by using the technique of random sampling. The population and the number of units selected are depicted in table 1.

Both primary and secondary data are collected and used for the study. The primary data required for the study has been collected using interview schedules. The secondary data for the study has been collected from the Panchayat Office, published reports of Kudumbasree, government reports, journals and also from various websites. For the purpose of analysis mathematical and statistical tools like percentages, weighted mean score, ranking technique, ANOVA test etc; were used. SPSS software was used for analysis of primary data.

TABLE 1: SAMPLE SELECTION

Nature of Activity	No. of Units	Sample Selected
Production :		
Food Products	14	7
Animal Husbandry	24	12
Tailoring	14	7
Trading	3	2
Services	3	2
Total	58	30

RESULTS AND DISCUSSIONS

Various objectives formulated were scientifically analyzed and the formulated hypotheses were tested and the results obtained have been discussed below:

QUANTUM OF INVESTMENT

In order to analyze the quantum of investment in micro enterprises an attempt was made by the researcher. It has been identified that 33.3 per cent of micro enterprises have total investment in fixed and current asset at the range of rupees one lakh to two lakhs, followed by 20 percent each at above rupees four lakh and 2 to 3 lakh. 10 per cent of the enterprises have investment in less than one lakh rupees, whereas 16.7 per cent enterprises have amount of investment rupees three to four lakh. The amount of investment analysis reveals that majority of micro enterprises invested more than rupees two lakh.

INVESTMENT IN CURRENT ASSETS

70 per cent of the micro enterprises have investment in current asset with less than rupees in fifty thousand, followed by 23.3 per cent having investment up to rupees one lakh. 7 per cent micro enterprises made investment in current asset more than rupees one lakh.

INVESTMENT IN FIXED ASSETS

40 per cent of the micro enterprises have investment in fixed asset with more than rupees two lakh, whereas 20 per cent of the units invested in fixed assets with less than rupees one lakh. Remaining 40 per cent have investment in fixed assets at the range of rupees one lakh to two lakhs.

REGULARITY OF INCOME

For every economic activity regularity of income is inevitable. If the economic institution is not generating regular income, then it will definitely question the existence of that economic unit. It is in this perspective researcher analyses regularity of income and the reasons for irregularity of income. It has been revealed from the study that 67 per cent of the units are generating regular income, whereas 33 per cent expressed reverse opinion that they have no regular income from their economic activity.

REASONS FOR IRREGULAR INCOME

Depending up on the nature of economic activity, nature of operations and other factors the reason for irregularity of income may vary. In this study the researcher identifies few important reasons for irregularity of income and those identified reasons are; high interest of loans taken by micro enterprises from financial institutions, poor marketing strategies adopted by the micro enterprises, increased cost of production/operation, increased competition from external environment. Various reasons for irregularity of income revealed that 40 per cent units face very high market competition from the external environment. While 30 per cent units expressed the reason for irregularity of income is very high interest on loans taken by them. 20 per cent opined that increased cost of production/operation is the reason for irregularity in income.

DIFFICULTY IN RAISING FUND

Few of the micro enterprise units face various difficulties in raising the funds from financial institutions. 73 per cent of the units make use of the borrowings from commercial banks; whereas 27 per cent make use of both borrowings from commercial banks and Government subsidies. An attempt was made to reveal whether the units have faced any difficulty in raising fund. The study revealed that 70 per cent (21 units) of the units have not faced any difficulty in raising fund; remaining 30 per cent (9 units) opined that they have faced difficulty in raising funds from financial institutions. 78 per cent units who faced difficulty in raising fund opine that bank formalities and 'red tapism' as the main reason for difficulty in raising fund. The study reveals that 33.33 per cent of micro enterprise units faced very high level of difficulty in raising fund, whereas 66.67 per cent faced high level of difficulty.

PROBLEMS FACED BY MICRO ENTERPRISES

In an economy where competition is considered as the driving force for growth, economic institutions with huge capital and highly skilled labours performs in an "extra ordinary" way, the deficiency of these key factors may lead to various uncertainties. In this study the researcher identifies various problems faced by micro enterprise units and the unit leaders were asked to specify the extent of each problem faced by their unit in "Five Point Likert Scale" method. Weighted Mean Score of each problem is measured and ranked on the basis of mean score and the result obtained is shown in table 2.

TABLE 2: MEAN SCORE AND RANK OF VARIOUS PROBLEMS

Problems	Weighted Mean Score	Rank
Scarcity of Capital	3.56	2
Seasonal Nature of Business	3.1	4
Market Competition	3.4	3
Lack of Proper Management	1.2	9
Cost of Raw Materials	4.33	1
Lack of Family Support	1.21	8
Lack of Adequate Workforce	1.07	10
Lack of Education	1.23	7
Technical/Technological Issues	1.7	6
Lack of Sufficient Infrastructure	2.83	5

Source: Primary Data

Increased cost of raw materials is the highest problem faced by the micro enterprises having mean score of 4.33 which ranks first, followed by scarcity of capital (mean score 3.56), market competition (mean score 3.4), seasonal nature of business (mean score 3.1) are the other major problems faced by the micro enterprises. Lack of adequate workforce (mean score 1.07), lack of proper management (mean score 1.2), lack of family support (mean score 1.21) are the least affected problems faced by the units.

HYPOTHESES TESTING

HO₁: The opinion of the Micro Enterprise Units regarding difficulty in raising funds from financial institutions is the same.

In order to identify whether there is any significant difference between difficulty in raising fund and the nature of economic activity ANOVA test is applied. The result of ANOVA test is shown in table 3.

TABLE 3: ANOVA RESULT I

	Sum of Squares	Df	Mean Square	F	Sig.
Between Groups	0.185	27	0.092	0.408	0.669
Within Groups	6.115	2	0.226		
Total	6.300	29			

Source: Primary Data

The ANOVA test revealed a Sig value of 0.669, which means there is no significant difference between the nature of economic activity and the level of difficulty in raising fund from the financial institutions. Therefore, the null hypothesis, “the opinion of the Micro Enterprise Units regarding difficulty in raising funds from financial institutions are the same” stands accepted.

HO₂: The opinion of the Micro Enterprise Units regarding the different problems faced by them is the same.

In order to identify whether there is any significant difference between various problems faced by the units and the nature of economic activity, ANOVA test is applied. The result of ANOVA test is shown in table 4.

TABLE 4: ANOVA RESULT II

	Sum of Squares	Df	Mean Square	F	Sig.
Scarcity of Capital:					
Between Groups	.867	2	.433	.289	.751
With in Groups	40.500	27	1.500		
Total	41.367	29			
Seasonal Nature of Business:					
Between Groups	8.200	2	4.100	1.280	.294
With in Groups	86.500	27	3.204		
Total	94.700	29			
Market Competition:					
Between Groups	9.046	2	4.523	1.451	.252
With in Groups	84.154	27	3.117		
Total	93.200	29			
Lack of Proper Management:					
Between Groups	.251	2	.126	.477	.626
With in Groups	7.115	27	.264		
Total	7.367	29			
Cost of Raw Materials:					
Between Groups	1.128	2	.564	.516	.603
With in Groups	29.538	27	1.094		
Total	30.667	29			
Lack of Family Support:					
Between Groups	1.415	2	.708	1.099	.348
With in Groups	17.385	27	.644		
Total	18.800	29			
Lack of Adequate Workforce:					
Between Groups	.021	2	.010	.150	.861
With in Groups	1.846	27	.068		
Total	1.867	29			
Lack of Education					
Between Groups	.251	2	.126	.198	.821
With in Groups	17.115	27	.634		
Total	17.367	29			
Technical/Technological Issues:					
Between Groups	1.185	2	.592	.757	.479
With in Groups	21.115	27	.782		
Total	22.300	29			
Lack of Sufficient Infrastructure:					
Between Groups	1.821	2	.910	1.504	.240
With in Groups	16.346	27	.605		
Total	18.167	29			

Source: Primary Data

The ANOVA test revealed that Sig. values of all the variables are more than 0.05, which indicates that there is no significant difference between the nature of economic activity and various problems faced by the units. Therefore, the null hypothesis, "Opinion score of the Micro Enterprise Units regarding the different problems faced by them are the same" stands accepted.

SUGGESTIONS AND RECOMMENDATIONS

Cost of raw materials and scarcity of capital is the major problem faced by the majority of the micro enterprises, so efforts should be taken to identify low cost materials and to identify the sources from which they can avail necessary capital they need. It is also highly recommended that the rural women should be provided with sufficient financial literacy programmes for operating their micro enterprises.

CONCLUSION

Kudumbasree linked micro enterprises has gained various achievements in our society. Our rural woman has got into a new way of socialization through Kudumbasree unit activities. The socio-economic empowerment of the women has been achieved by the Kudumbasree units up to a certain extent. Kudumbasree linked micro enterprises have been providing employment opportunities and income generating activities to the rural women. Decision makers have to give due attention to various problems faced by the micro enterprise units. In this study the researcher analyzed the problems and prospects of Kudumbasree linked micro enterprises and the study revealed that high cost of raw materials, scarcity of capital, market competition etc. are the main problems faced by the units. Efforts should be made to overcome all hindrances for the successful achievement of goals.

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PROBLEMS AND PROSPECTS OF LEATHER INDUSTRY IN VELLORE DISTRICT

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ABSTRACT

Indian leather industry has experienced a huge change from being an exporter of raw leather to an exporter of finished leather products. Credit can be given to the various policy initiatives taken by the government from time to time. At present leather industry is among top industries which earn foreign exchange for India. There are more than 1200 units in Vellore district contributing around 37% of Indian leather goods exported to foreign countries. In Vellore these industries are facing environmental issues. Measures are required to avoid pollution of ground water and agriculture fields due to effluents from these leather and tanning units. Through this paper, an attempt has been made to see the present condition of leather industry, its current problems and other burning issues.

KEYWORDS

tanning, effluents, export, zero liquid discharge.

INTRODUCTION

There are around 1200 leather tannery in and around Vellore. Vaniyambadi, Ambur, Visharam, Ranipet and Pernambut are the towns of Vellore district. Vellore district contributes 37% of the India's export of leather. Hence Vellore district is one of the top exporters of finished leather in India. The chemicals used for making leather are highly dangerous to environment. In order to assess the level of technology used in leather production and waste disposal technology, tanneries located in Ambur and Vaniyambadi were selected since most of the small scale and large scale tanneries are concentrated in this area. The CETP (Common Effluent Treatment Plant) at Valayampet in Vaniyambadi has achieved complete ZLD (Zero Liquid Discharge) at a cost of 150 crores. In order to determine social impact of leather production on the nearby society and workers, labour working at the waste disposal site and the villagers of the nearby village were interviewed. Finally, an officer in charge of Waste Water Treatment Plant was consulted to assess the effluent treatment technology used in cleaning the effluent coming from tanneries.

HISTORY OF LEATHER INDUSTRY IN VELLORE

British rule inspired the people in the trade to put up leather tanneries. Since leather industry required plenty of water, the main source of water was the Palar river and it was the natural resource. It had continuous flow of clean water. The next requirement was transport to Chennai, which was the gate way port for export of leather to European market. The kingdom of Mysore was also a well reputed buyer of the industry in the past. The port still holds an important medium even today after more than a century. Vaniyambadi, Ambur, Pernambut and Ranipet, which fulfilled the basic requirements, attracted the leather men.

PROCESS OF TANNING

The process of leather tanning into mechanized industry has rather been slow in Vellore district was no exception. For more than 50 years, tanning was essentially a manual operation. The process was known as vegetable tanning and the method was bark tanning.

The transformation from house hold activity to mass production methods in separate premises engaging group of workers took place in the Forty. By mid-forty there were about 20 such organized production centers which could fit into the definition of a tannery. It was in the fifties that mechanically driven drum was introduced and tanning with wattle extract was extensively used. The vegetable tanning or East India (E.I) tanning dominated the leather industry for the next 25 to 30 years. The phase of mechanization gained momentum in the seventies and eighties with the introduction of chrome tanning, necessitated by the increasing demand for chrome tanned leather in international markets.

REVIEW OF LITERATURE

Leather industries play an important role in the development of our economy, while describing some basic issues pertaining to the leather industries in developing economies, some review of literature are given here.

Shetty (1963) pointed out that the technological base in the industry was extremely primitive and a unit was rarely interested to adopt technological modification in the process.

Usha (1985) based on Tamil Nadu Leather Tanning Industry in Year 1978-79. She focused attention on some selected issues related to the structure of work force, Mechanization and the prospect of the traditional skilled and unskilled workforce in the industry. Her Major findings were that the leather tanning sector in Tamil Nadu, about 90.0 per cent of the total entrepreneurs" belonged to the Muslim Community and rest belong to the Hindu Community. As regards the Mechanization of Industry, most of the tanning and manufacturing units were using Labor-intensive technique, in which the skilled hand workers formed a majority of the work-force.

Qureshi (1990) discussed some issues of leather making artisans of Mewat region in the district of Gurgaon, Haryana A large Majority of Leather Products makers were facing problems of inferior quality of goods, time consuming, less profitability, low prices for products, non-availability of credit and payment delays.

Sahasranaman (1993) pointed out some basic problems of the leather product industry. According to this study, in the Leather Product Industry, the dominance of traditional production system, confinement of production to a particular community, absence of modernization of technology, were the basic problems of the producers.

Chandramouli's (1999) on "Leather and Social Development" focused on some characteristics of Leather Industry. The author stated that the production of leather and leather products involves various socio-economic activities. The economic activities were largely in the form of generation of income, creation of employment, etc. On the other hand, the production of leather and leather goods led to the social development in the form of understanding, awareness, social equity, better health, education and nutrition.

Bhavani (2010) highlights the issue of quality employment generation by the SSIs and negates the short term attitude of increasing the volume of employment generation compromising with quality. The author argues that employment generation by the SSIs may be high in quantitative term but very low in quality. Technological up gradation would enable the small firms to create quality employment improving, duration and skill. This structural shift may reduce the rate of employment generation in the short run but would ensure high-income employment generation in the long run.

Thygarajan, A.V. Srinivasan, A. Amudesweriin Leather 2010 make an in- depth analysis of the Indian Leather Industry and a forecast of its prospects in future. According to them, Indian Leather Industry has risen from the position of exporter of raw hides and skins to a level of major player in the global leather trade.

S.C. Kumar in his research paper provides some basic information pertaining to nature and structure of the leather industry and highlights its significance in the national economy and its linkages.

The work of Saurabh Sinha and Sanjay Sinha give a light on the Indian Leather Industry as a whole, the general background, the regulatory and policy changes needed for the promotion and development of leather industry from the exporter of raw hides and skins to the finished leather and leather products exporter. They deal, at length, with the world market, future demand for finished leather, raw material availability, the production infrastructure, productivity and quality. T. Ramaswami discusses the contribution of CLRI to the promotion of Indian leather industry in his article in "Indian Survey of Indian Leather Industry". The CLRI has developed technologies for cleaner production, cost reduction, improvement of quality of leather, manufacture of more sophisticated leather chemicals, end of pipe treatment of tannery waste waters, improved methods of fabrication of shoes, leather garments and leather goods and recovery of value added materials from by products.

Satya Sundaram discusses the favourable aspects of Indian footwear industry which put India one among the top ten producers of footwear and its components. Three major factors have been identified as favourable for Indian shoes manufacture. India is one of the big producers of raw hides and skins and its tanning costs are comparatively low. Due to deregulation of the economy massive foreign investment are coming into India.

A. Kumaresan, on the basis of a survey about the export performance of leather and related goods, has revealed that the Indian leather Industry has bucked the general economic trend and registered good growth in exports in 2008-09. The future of this industry remains bright, as the demand for leather products is projected to increase both within India and across the globe.

The work of Dhulasi Birundha Varadarajan and Saradha Krishnamoorthy is an effort to assess the economics of the growth of leather and its impact on environment. While emphasizing the importance of growth of leather industry for its positive effects, one is aware of the negative effects viz. environmental damage through the spoilage of drinking water, water for farming and land fertility. So a trade-off occurs while emphasizing the growth of the leather and its environmental damage. A team of experts of CLRI conducted a survey on raw hides and skins for the Ministry of Commerce, Government of India. The report provides valuable information on the present status of the raw material, production, quality, magnitude of wastage occurring, curing and preservation practices, market structure, time lag and arrival and destination of raw materials pertaining to important terminal markets for hides and skins and meat animals. This survey covers different states including the state of Kerala.

Dr. Satya Sundaram in his article in "Facts for you" describes the potentiality of leather industry in the economic development of the country. Leather industry occupies an important place among the major industries because of its high employment potential. Leather units in the country are mainly concentrated in places like Chennai, Vaniambadi/Ambur, Delhi/Agra, Bangalore, Kanpur, Calcutta, Pune and Hyderabad. The Southern region produces as much as 75% of the total finished leather, while for leather goods like wallets, ladies handbags, luggage cases etc. eastern region is ahead of other regions. The favourable factors for the industry include availability of adequate raw material, abundant low waged labour, liberalized economic policies and governmental support for the industry's growth and export.

R.R. Prasad and G. Rajanikanth deal with the origin, development and growth of leather and allied industries in different parts of India. The use of skins began so early in the history of human race. The early man used skins for various purposes like covering his body, making house hold utensils etc. the origin, development and distribution of leather and allied industries in different parts of India are influenced by various social, economic, religious and ecological factors. The tanning industry is mainly depended upon 16 two things for its development- the pelts of animal and the tanning materials. India is very rich in tanning materials like 'avaram' (Cassia Auriculata), 'babul' (Acacia Arabica), 'myrobalan' (Terminalia Chebula), 'wattle' (Acacia Decurrens) and 'dividivi' (Caesalpicnia Cariania). The production of hides and skins depends upon the total cattle population in different regions and a number of other factors such as the religious sentiments of the people.

OBJECTIVES OF THE STUDY

1. To know the current trends in leather market
2. To study about the problem faced by tanners

RESEARCH METHODOLOGY

Source of data is primary data like Questionnaire through direct personal interviews and secondary data – Internet, books, various publications and magazines from 30 tanners of Vellore district. Statistical techniques like frequency distribution, percentage analysis of the data is applied. The period covered under this study was January 2016 to April 2016.

LIMITATION OF THE STUDY

The major limitation of the study is that the results may not be universally applicable as it is descriptive study. The opinion of the respondents may differ at different points of time. If a large number of respondents have been considered from study, the results might have differed in the case. The sample size restricted to 30 only and the area of study is also restricted to only Vellore district.

ANALYSIS AND INTERPRETATIONS

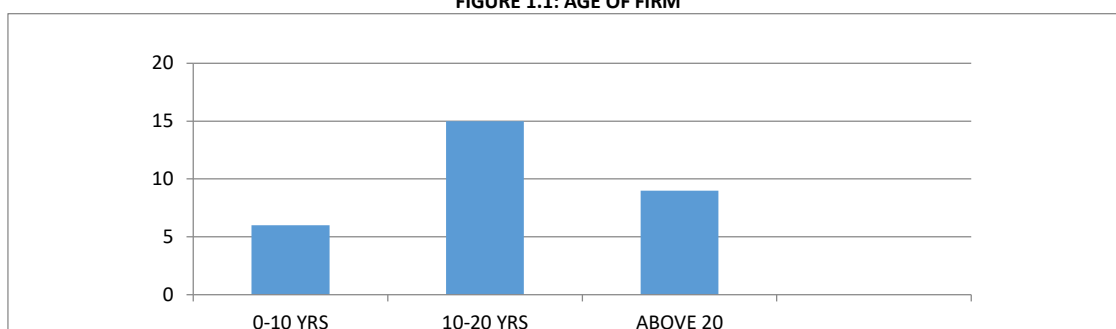
PERCENTAGE ANALYSIS

The data pertaining to age of firm of the respondents are presented in table 1.1:

TABLE 1.1: AGE OF FIRM

AGE	FREQUENCY	PERCENT
0-10 YEARS	6	20%
10-20 YEARS	15	50%
ABOVE 20 YEARS	9	30%
TOTAL	30	100%

FIGURE 1.1: AGE OF FIRM



Source: primary data

INFERENCE

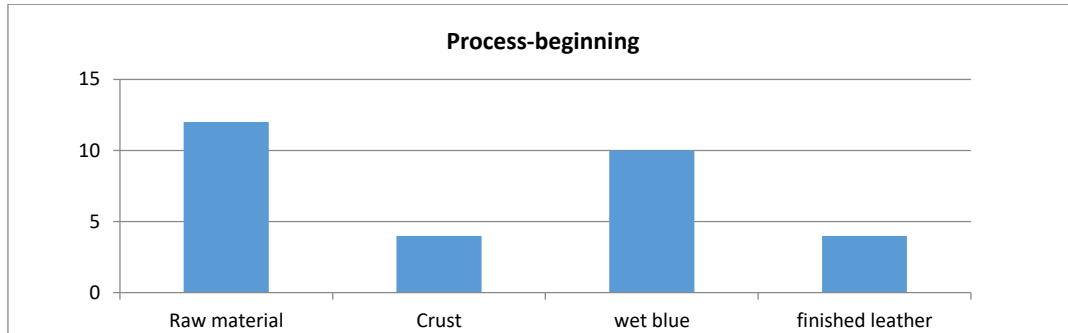
From the above table it is inferred that the 50% of the age of firm belongs 10-20 years. The 30% belongs to above 20 years and only 20% of the tanners are lesser than 10 years. The same resulted are also exhibited in figure 1.1.

The data pertaining to the beginning of process are presented in table 1.2

TABLE 1.2: PROCESS-FROM

VARIABLE	FREQUENCY	PERCENT
RAW MATERIAL	12	40%
CRUST	4	13.33%
WET BLUE	10	33.34%
FINISHED LEATHER	4	13.33%

FIGURE 1.2: PROCESS-FROM



Source: primary data

INFERENCE

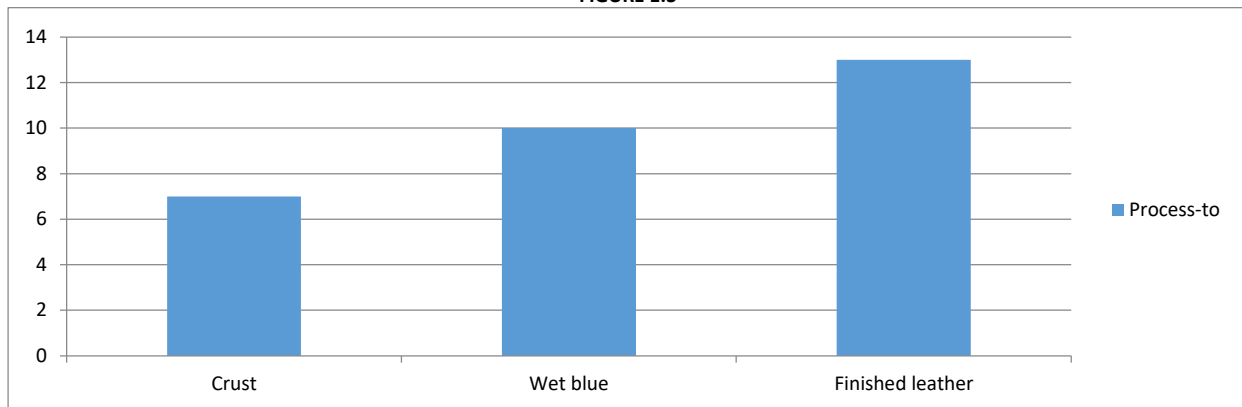
From the above table it is inferred that 40% of the respondents start their tanning process from Raw materials. The percentage of tanners start their process from crust and finished leather are almost equal to 13.33% and tanners who start their process from wet blue are 33.34%. as shown in table 1.2.

The data pertaining to the ending of manufacturing process are presented in table 1.3.

TABLE 1.3: PROCESS-TO

VARIABLE	FREQUENCY	PERCENT
CRUST	7	23.33%
WET BLUE	10	33.33%
FINISHED LEATHER	13	43.34%

FIGURE 1.3



Source: Primary data

INFERENCE

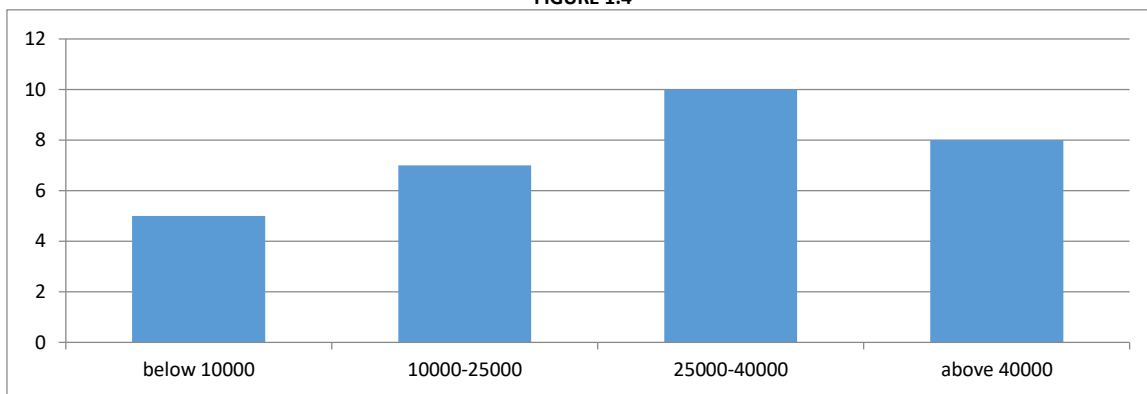
From the above table it is inferred that 43.34% of the tanners produce finished leather. 33.33% of the tanners produces Wet blue and remaining 23.33% manufacture Crust leather. There are few tanners even produce leather products such as Wallets, Jackets, shoes etc. but it is not taken in the record. The same resulted are also exhibited in figure 1.3.

The data pertaining to capacity of production are presented in table 1.4.

TABLE 1.4: CAPACITY OF PRODUCTION

VARIABLE	FREQUENCY	PERCENT
BELOW 10000 units	5	16.66%
10000-25000 units	7	23.33%
25000-40000 units	10	33.34%
ABOVE 40000 units	8	26.67%

FIGURE 1.4



Source: Primary data

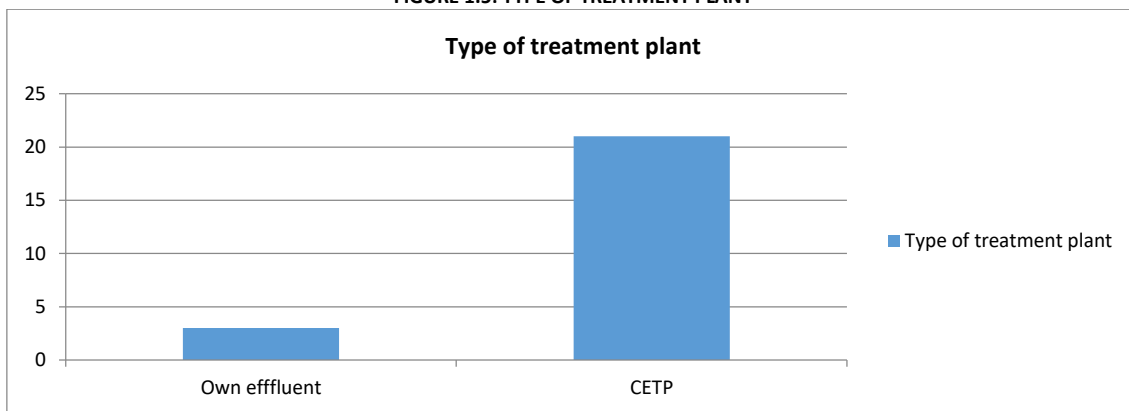
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From the above table it is inferred that 33.34% of the tanneries are medium level whose production capacity are 25000-40000 units per month. 26.67% of tanneries are large scale tanneries whose capacity of production are more than 40000 units. The small level tanneries whose limit is restricted between 10000 to 25000 units and 16.66% are very small units whose production limit is less than 10000 as shown in table 1.4 and figure 1.4. The data pertaining to Type of treatment plant are presented in table 1.5.

TABLE 1.5: TYPE OF TREATMENT PLANT

VARIABLE	FREQUENCY	PERCENT
OWN EFFLUENT TREATMENT PLANT	9	30%
COMMON EFFLUENT TREATMENT PLANT	21	70%
TOTAL	30	100%

FIGURE 1.5: TYPE OF TREATMENT PLANT



Source: Primary data

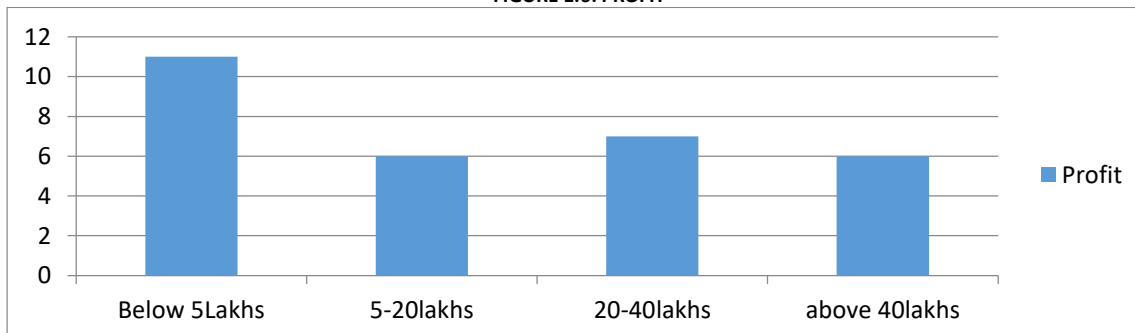
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In the table 1.5 it shows that the 70% of tanners use the common effluent treatment plant and remaining 30% of tanners have their own treatment plant. As shown in figure and table 1.5. The data pertaining to profit earned by tanners are presented in table 1.6.

TABLE 1.6: PROFIT

VARIABLE	FREQUENCY	PERCENT
BELOW 5LAKHS	11	36.66%
5-20LAKHS	6	20%
20-40LAKHS	7	23.34%
ABOVE 40LAKHS	6	20%
TOTAL	30	100%

FIGURE 1.6: PROFIT



Source: Primary data

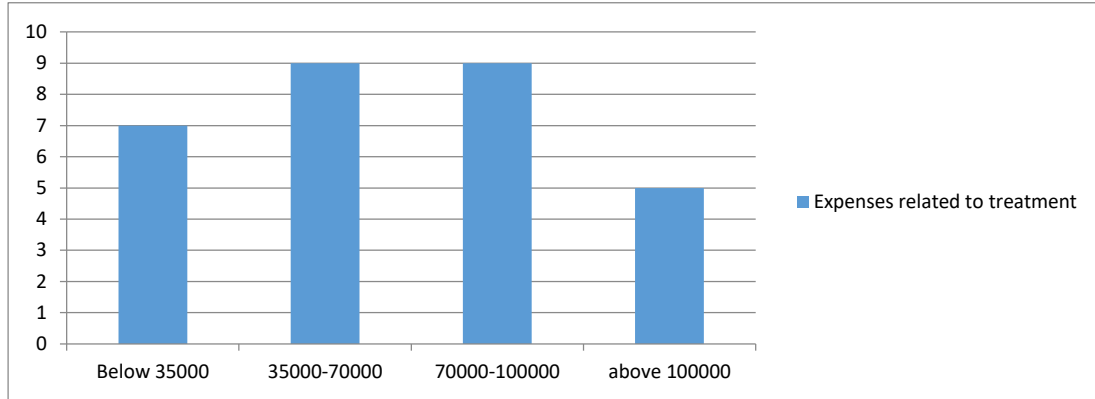
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From the above table it is inferred that 36.66% of the tanners receive the profit of below 5 lakhs. 23.34% of tanners has profit in range of 20-40lakhs. 20% of tanners have high profit of 40 lakhs and remaining market 20% of tanners has profit between 5-20 lakhs, as shown on table and figure 1.6. The data pertaining to expense related to production are presented in table 1.7.

TABLE 1.7: EXPENSES RELATED TO TREATMENT

VARIABLE	FREQUENCY	PERCENT
BELOW 35000	7	23.34
35000-70000	9	30%
70000-100000	9	30%
ABOVE 100000	5	16.66%
TOTAL	30	100%

GRAPH 1.7: EXPENSES RELATED TO TREATMENT



Source: Primary data

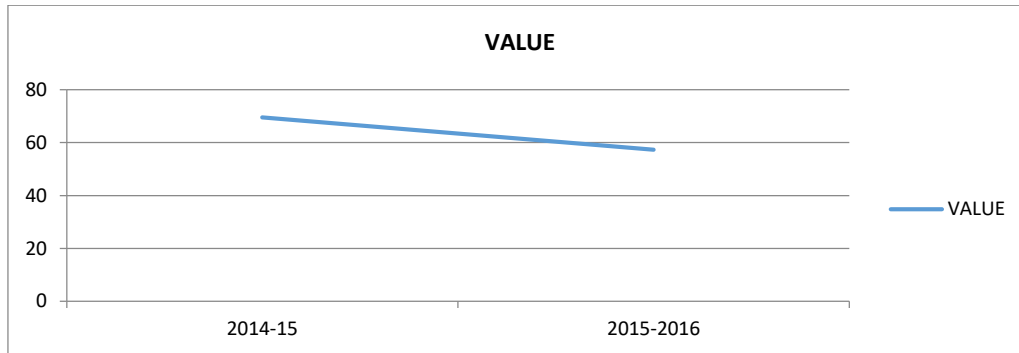
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From the above table it is inferred that 30% of the tanners incurred expenses related to treatment are 35000-70000 and 70000-100000. 23.34% of tanners expense below 35000 to treatment plant and 16.66% have high expense of treatment plant above 100000. The data pertaining to number of labors are presented in table 1.8.

TABLE 1.8: CHANGE IN EXPORT OF FINISHED LEATHER

YEAR	VALUE IN MILLION RS
2014-15	69500.48
2015-16	57353.95
CHANGES	-21%

FIGURE 1.8: CHANGE IN EXPORT OF FINISHED LEATHER



Source: Secondary data

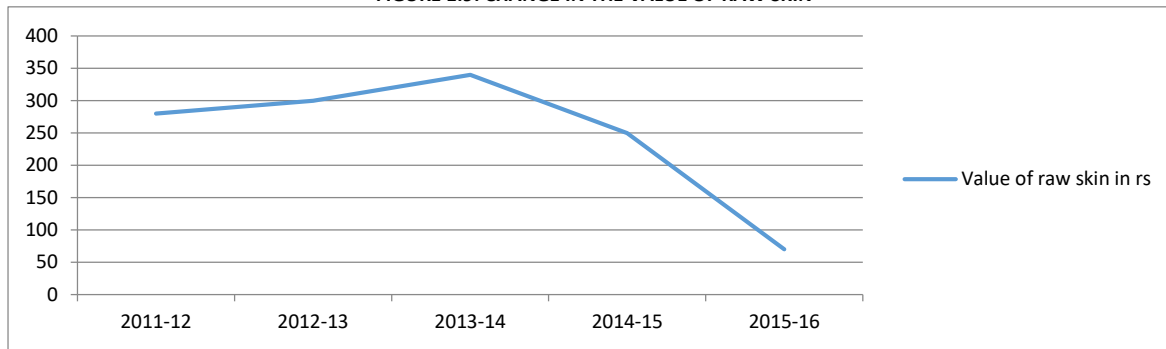
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Table 1.8 shows that the value of export has been reduced up to 21% as compared to last year. The data pertaining to change in the value of raw skin are presented in table 1.9

TABLE 1.9: CHANGE IN THE VALUE OF RAW SKIN

YEAR	VALUE IN RS/PSC OF 5FT
2011-12	280
2012-13	300
2013-14	340
2014-15	250
2015-16	70

FIGURE 1.9: CHANGE IN THE VALUE OF RAW SKIN



Source: Secondary data

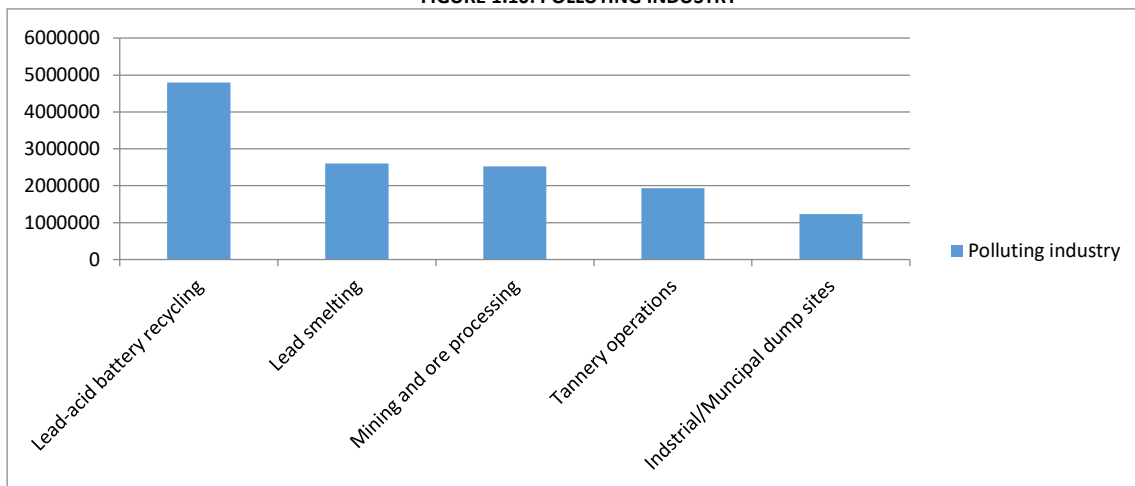
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From the table 1.9 value of raw skin has been shown which shows a downward trend. The data pertaining to polluting industries are presented in table 1.10.

TABLE 1.10: POLLUTING INDUSTRY

VARIABLES	AFFECTS NO.OF PERSONS
Lead-acid battery recycling	4800000
Lead smelting	2600000
Mining and ore processing	2521600
Tannery operations	1930000
Industrial/Municipal dump sites	1234000

FIGURE 1.10: POLLUTING INDUSTRY



Source: Secondary data

INFERENCE

From the table 1.13 the Lead-acid recycling industry cause high pollution.

FINDINGS

50% of the tanners engage in the business from 10 to 20 years. 40% of the tanners start their process to manufacture leather from raw skin. 43.34% of the tanners produce finished leather. 33.34% of the tanneries has capacity to produce 25000-40000 units per month. 50% of the tanners purchase raw material from national market. 33.33% of the tanners sale their product in national market. 70% of the tanners uses the common effluent treatment plant to treat the polluted water. 33.34% of the tanners incurred the expenses between 20-40 lakhs. 36.66% of the tanners receive the profit up to 5 lakhs. 60% of the tanners incurred expense related to treatment is in the range of 35000-100000. 30% of the tanners give job opportunity to below 20 persons. 40% of the tanners have 20-40 number of labors. -21% change has been identified in the export value. The value has reduced more than three times in a period of year. The tanning industry affects 19,30,000 of lives by pollution.

CONCLUSION

The government has to review its policy towards the industry, more incentives should be provided to tanners. The cost of treating the water should be reduced as much as possible because it is the burden for tanners. New technologies of manufacturing should be adopted by tanners and boost the industry. Well educated and talented technician, labors are required to make high class leather. The industry should focus on the finished and various kind of leather product from which the demand in international market will increase. Tanners should promote to export their product as much as possible. There is no import duty on raw skin, wet blue and crust this create the less opportunity of raw skin merchant to sale the product at good price. The tanners have suggested that due to barriers of using limited water they are not able to manufacture high quality of leather. The new methods which are suggested by CLRI (Central leather research institute) may pollute less than the traditional method but the quality has been reduced. There are several other industries which cause more pollution than leather industry but leather industry faces much obstacle from the government and pollution control board.

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CHANGING E-TAIL TRENDS IN INDIA

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ABSTRACT

E-tail refers to Electronic retailing i.e. offering goods and services by the marketer to the retail customers through the internet. In the present decade this category of business has grabbed a lot attention on account of significant increase in the number of companies in this area and lucrative offerings and sales growth made by such retailers. This paper aims at identification and analysis of significant changes in e-tail trends along with major causes of such changes.

KEYWORDS

electronic commerce, electronic retailing, retail, it, internet, e-tail.

INTRODUCTION

Businesses are developing rapidly with Information Technology (IT) being the key driver in current times and that is changing the way companies are marketing their products and services also. Suitable use of IT in marketing could lead to competitive advantage to companies as it can be the source of improvement over existing products and better marketing results (Tzokas and Saren, 1997; Tatikonda and Stock, 2003; Bond and Houston, 2003). Moreover, there has been growing interest among researchers toward studying online shopping behavior in developing countries (Park and Jun 2003; So, Wong, and Sculli 2005; Marti'nez-Lo'pez, Luna, and Marti'nez 2005; Haque et al. 2007; Cho and Jialin 2008; Riley, Scarpi, and Manaresi 2009; Hashim, Ghani, and Said 2009; Hasan 2010)

This paper aims to catch hold the changing scenario in the business to customer segment of Electronic Retailing (termed as e-Tail in next part of literature). It can be briefly understood with the help of below mentioned points.

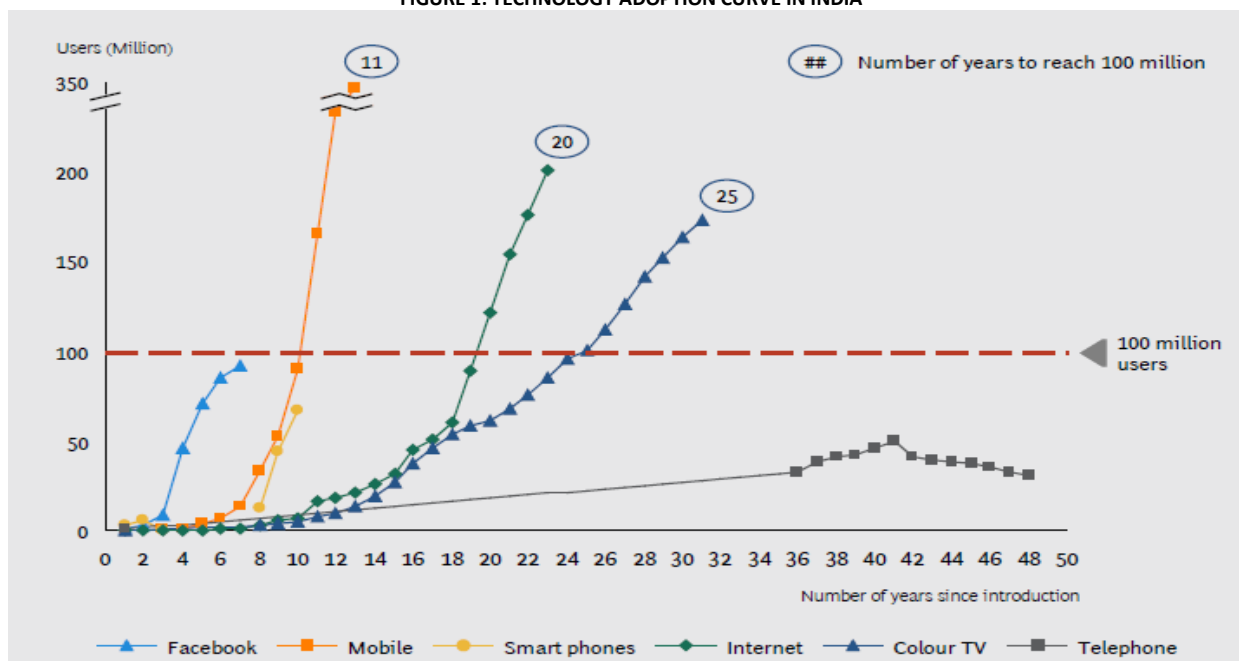
CAUSES OF CHANGES IN E-TAIL INDUSTRY

Changing Global Trends: According to a study conducted by Google with BCG in year 2014 namely 'Insurance @ Digital 20X by 2020' it was revealed that World had 6.7 billion mobile phone connections, 2.7 billion internet users and 1.7 billion social media users at the end of year 2013. This is projected that by year 2018 these numbers will be drastically changed and world will have 8 billion mobile connections, 3.3 billion internet users, 3 billion smart phones. This upside trend is again positive and lucrative opportunity for online marketers.

On one front of Technology adoption, it can be counted that Telephone took almost 110 years whereas Television took 49 years to reach 1 billion connections globally. But in case of internet subscription it took only 14 years to reach 1 billion mark whereas smartphones took only 8 years to reach the same level.

When we talk about India on same parameter we find that here colour television took 25 years to achieve 100 million customers whereas internet took 20 years and smartphones took 11 years to reach to the level of 100 million (refer Figure 1).

FIGURE 1: TECHNOLOGY ADOPTION CURVE IN INDIA



(Source: BCG-Google Report, 2014)

Changing number of internet users: As we can observe in our lives that internet facility is used by one and all for variety of purposes including business, profession, job, entertainment, vacation etc. This situation is not present only in our surroundings but also in rest of the India too. A survey was conducted by Boston Consulting Group (BCG) in association with Internet and Mobile Association of India (IAMIA). In the report by the researcher it was published that Internet users in India were more than 170 million at the end of 2013. This number was close to seven million at the end of 2001. Report further projects that by the end of 2018 this number of internet users may cross the limit of 580 million. This increasing number of internet users creates a favourable atmosphere for development of e-tail (refer Figure 2).

FIGURE 2: CHANGING NUMBER OF INTERNET USERS

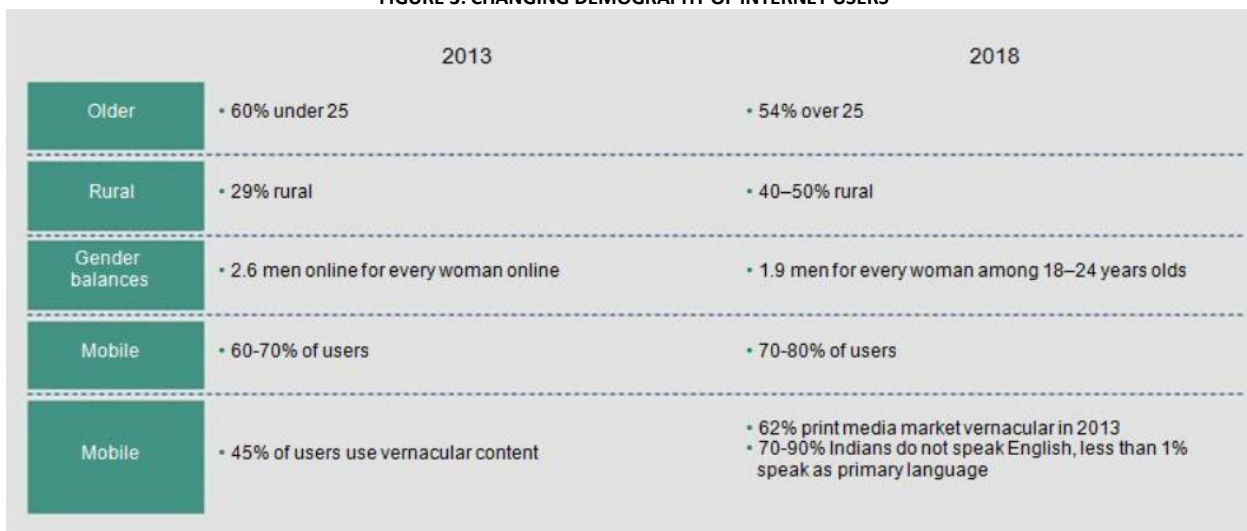


(Source: BCG-IAMIA Report, 2014)

Change from Urban to Rural Internet Users: BCG-IAMIA Report 2015 states that today almost 29% of internet users are from rural locations. It is further expected that by 2018 this percentage may raise upto 40 to 50. In this way almost half the users will be from rural areas. This new market for e-tail companies can be a huge untapped market. Especially those products which are not available in village can be supplied. Branded products are also rarely available in rural areas. There it seems a good indication for the marketers (refer Figure 2).

Changing demography and Internet usage: As per BCG-IAMIA Report, approximately 40% internet users are above the age of 25 till 2013. It is projected that by the end of 2018 this percentage will be above 54. This will surely be in favour of internet related businesses. It is further noteworthy that out of total internet users 25% are females this number is also projected to increase upto 33% by 2018. As in several studies it is also found that females have important influence in family purchase decisions therefore such shift will provide more attractive environment for the online shopping companies.

FIGURE 3: CHANGING DEMOGRAPHY OF INTERNET USERS



(Source: BCG-IAMIA Report, 2014)

Report further ensures the attractiveness of e-tail industry for employees too. It is estimated almost 4.5 lakh employees are working for this industry and the number is projected to reach 20 lakhs by 2018. Such increase will provide better penetration to internet related businesses as it will provide significant word of mouth publicity by its employees itself.

Change in Average Internet speed: Internet speed is getting a subject matter of discussion everywhere in India. Even Indian Prime Minister has expressed his worry on low internet speed in India in comparison to other developed and developing countries. Globally Average internet speed is close to 4 mbps but in India this average is hardly 2.5 mbps. This condition is not very favourable for online marketers. Anyway internet speed has increased in recent past. During the year 2012 average speed was close to 0.9 mbps (Akamai Internet News and Research Agency, 2015).

FIGURE 4: INTERNET SPEED IN INDIA, 2015

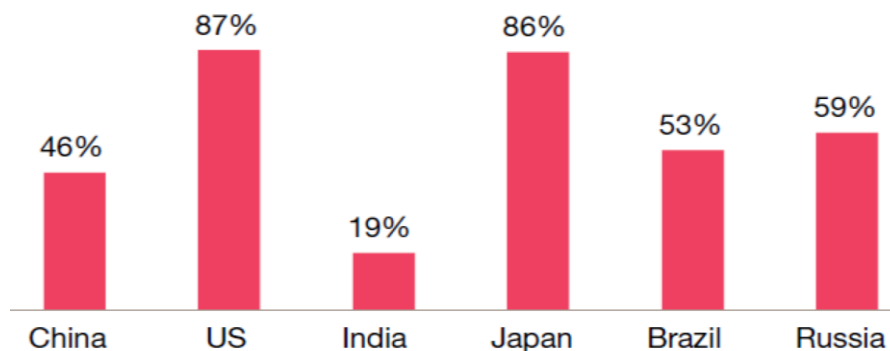
Global Rank	Country/Region	Q3 2015 Avg. Mbps
1	South Korea	20.5
5	Hong Kong	15.8
7	Japan	15.0
17	Singapore	12.5
33	Taiwan	10.1
42	New Zealand	8.7
43	Thailand	8.2
46	Australia	7.8
71	Sri Lanka	5.1
73	Malaysia	4.9
91	China	3.7
97	Vietnam	3.4
104	Indonesia	3.0
108	Philippines	2.8
116	India	2.5

(Source: AKAMAI, Speed of the Internet, 2015)

EFFECTS ON E-TAIL INDUSTRY DUE TO ABOVE MENTIONED CAUSES

Change in Internet Penetration: Likewise increase in number of internet users it is also noteworthy that internet penetration is also increasing rapidly in India. It started with 1 % penetration in year 2000 and now reached to 19% level till 2014 (BCG-GOOGLE REPORT 2014). Even this 19% penetration is extremely low in comparison to several other countries like Russia (61%), Brazil (54%) and China (50%). This significant difference demonstrates substantial opportunity in this industry for the marketers (refer Figure 4).

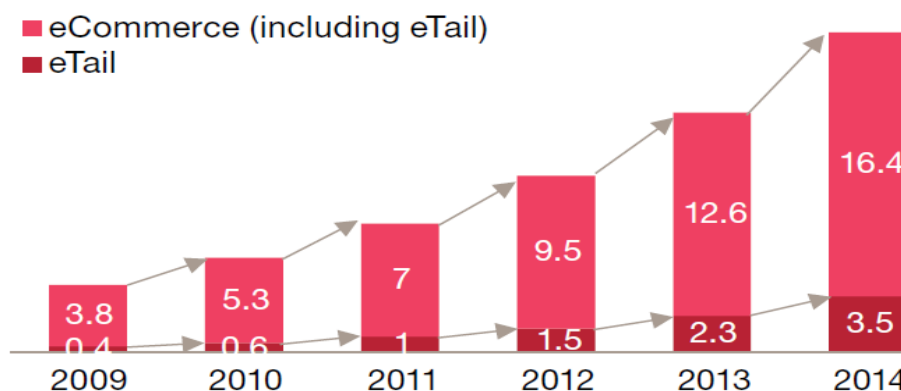
FIGURE 5: INTERNET PENETRATION IN SELECTED COUNTRIES



(Source: PWC report, 2015)

Change in Industry size: The manner in which number of internet users is increasing this becomes a need to have more speedy and affordable internet services to be made available to users. This has resulted in more number of internet service providers. Almost every telecom company has identified this opportunity and started giving internet services through different mediums. All these activities had resulted in increase in total Internet industry size. According to a report namely 'eCommerce in India- Accelerating Growth' by Pricewaterhouse Coopers, in year 2014, it was revealed that industry has reached to almost 3.5 billion USD by the closing of year 2014. Earlier it was close to 0.4 billion USD in year 2009. This increasing size of industry certainly creates possibilities for e-tail organizations too.

FIGURE 6: eCOMMERCE AND E-TAIL GROWTH IN INDIA



(Source: PWC Report, 2014)

Change in Investment in the Industry: A growing industry automatically attracts new investments. Same activity is taking place in case of e-tail business. With rapid increase of industry, it has provided opportunity for fresh investment as well. New investment in industry is also a symbol of attractiveness in industry. It can be sensed that market forces are positive towards e-tail business. According a report by Indian Brand Equity Foundation, 'The Rise and Rise of E-Commerce in India' - 2013 it was revealed that e-tailing could generate Rs 110 million USD in year 2010. An article published in Business Standard on Feb 6, 2015 under heading 'India set to become world's fastest growing e-commerce market' reveals that Indian e-tail industry attracted Rs 4.5 billion USD in year 2014. Such change in condition is obviously in favour of customers and e-tailors both. Further details of fresh investment in form of private equity deals during year 2014 have been provided in the Table.

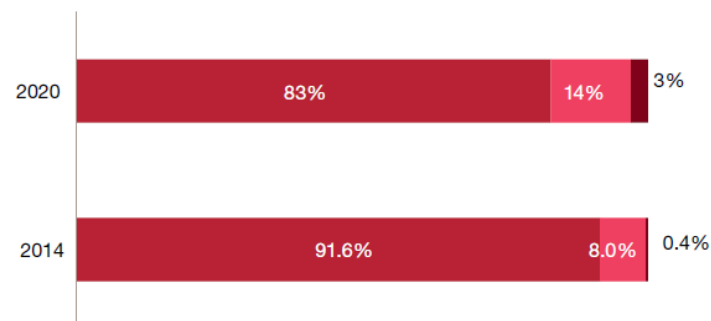
FIGURE 7: TOP 20 PRIVATE EQUITY INVESTMENT DEALS IN eCommerce, 2014

Date	Company	Amount (million USD)	Key investors
Jul-14	Flipkart	1,000	Morgan Stanley, GIC, Tiger Global, Accel India, Iconiq Capital, DST Global
Dec-14	Flipkart	700	Tiger Global, Iconiq Capital, DST Global, Steadview, Qatar Investment Authority
Oct-14	Snapdeal.com	637	Temasek, PremjInvest, SoftBank Corp
May-14	Flipkart	210	Tiger Global, Iconiq Capital, DST Global
Oct-14	Olacabs	210	Tiger Global, Matrix Partners India, SoftBank Corp, Steadview
Feb-14	Snapdeal.com	134	Kalaari Capital, Intel Capital, Nexus Ventures, Bessemer, Saama Capital
May-14	Snapdeal.com	100	Temasek, PremjInvest
Nov-14	Housing.com	90	Helion Ventures, Nexus Ventures, Qualcomm Ventures, SoftBank Corp, DST Global, Falcon Edge Capital
Mar-14	Quikr	90	Warburg Pincus, Norwest, Matrix Partners India, Nokia Growth Partners, Omidyar Network, Kinnevik
Sep-14	Quikr	60	Warburg Pincus, Norwest, Tiger Global, Matrix Partners India, Nokia Growth Partners, Omidyar Network, Kinnevik
Nov-14	Zomato Media	60	Sequoia Capital India, Vy Capital
Feb-14	Myntra	50	Kalaari Capital, Tiger Global, IDG Ventures India, Accel India, PremjInvest
Aug-14	Snapdeal.com	50	Ratan Tata
Jul-14	Olacabs	41.6	Sequoia Capital India, Tiger Global, Matrix Partners India, Steadview
Nov-14	Proptiger Realty	37	SAIF, Accel India, Horizen Ventures
Sep-14	Freecharge.in	33	Sequoia Capital India, Ru-Net Holdings
Sep-14	BigBasket	32.7	Helion Ventures, Ascent Capital, Zodius Capital, Lionrock Capital
Jun-14	Amazon.com India	30	Catamaran Ventures
Oct-14	CarTrade.com	30	Warburg Pincus, Tiger Global, Canaan Partners
Sep-14	CommonFloor	30	Tiger Global

(Source: PWC Report, 2014)

Change in Market share of e-tail out of total retail industry: Number of e-tail companies is increasing. New players are joining. Big old players are solidifying their positions. Organizations from outside India are attracted to India and few of them (like Amazon) have already joined Indian market place to compete with Indian players. This changing scenario has been projected by Pricewaterhouse Coopers in its report namely 'eCommerce in India- Accelerating Growth'. Report predicts that present market share of e-tail which is 0.4 % (2014) of total retail business should reach to 3% by 2018. It is also encouraging projection for both, markets and customers.

FIGURE 8: SHARE OF E-TAIL IN TOTAL INDIAN RETAIL

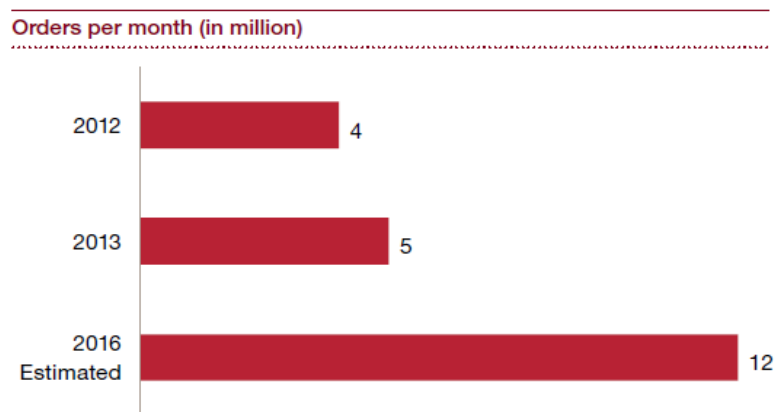


(Source: PWC Report, 2014)

Changing Internet contribution to GDP: Indian GDP rate has been fluctuating, generally in line with global trends. Contribution by Internet business has been showcasing consistent upside trend in past years. As per 2013 statistics internet business contributed 3.2% (almost 60 billion USD) of GDP which is better than Russia (2.7%), Brazil (2.9%) and China (3.1%) also. But still we are lagging far behind from UK (10.1%), Japan (5.5%) and US (5.2%). As per BCG-IAMAI estimations Indian GDP will reach to 4.6% (approximately 160 billion USD) by the year 2018.

Change in number of orders by customers: Pricewaterhouse Coopers in its report published that number of orders placed by customer to e-tail companies were close to 3 million orders per month during 2013. It advanced to 4 million orders per by the end of 2014. Report further projects that by 2018 this number should reach to the level of 12 million orders per month. Such significant increase can be remarkable and will make the e-tail market more demanding, promising and beneficial for all the related stakeholders.

FIGURE 9: ORDERS BY INDIAN CUSTOMERS PER MONTH (IN MILLION)



(Source: PWC Report, 2014)

Change in opportunities for Small and Medium Enterprises (SMEs): SMEs have always been in the key position of industries for the development of the related country. Internet related startups give significant opportunity to start a small business with least possible capital because infrastructure related expenses are extremely low here. According to BCG-IAMAI expectation by 2018 India will be served by more than 8 million SMEs related to internet businesses. Earlier this number was 3.5 million till 2013. Such a big leap in the number of SMEs in a single industry will give boost to the industry and plenty of opportunities will be available thereafter.

Change regarding cost related benefits to Service Organisations: In lack of need of extensive physical infrastructure requirements service providing organisation like banking units will be at ease. Such Organisations are offering their services from a location apart from their branches. For example, banks provide ATM related facility which can be used for significantly different options. This has not only reduced the burden of bank but also made the transactions less expensive in the hands of banking units.

As per BCG-Google report 2014, banking units which were spending Rs 40-50 per transaction while operating from banks has now come down to an amount less than Rs 0.50 when such services are used electronically through internet. This has showcased another dip in cost while using mobile banking services. Therefore, such changes are beneficial for marketer and customers too (refer Table Lower transaction cost through digitization).

FIGURE 10: LOWER TRANSACTION COST THROUGH DIGITIZATION

Transaction channel	Typical cost (INR / transaction)
Branch	40-50
ATM	13-17
Call Center	8-10
Offline BC model	4-6
Online BC model	2-4
Internet	0.2-0.5
Mobile	<0.2

(Source: BCG-Google Report, 2014)

Unique Initiatives- There are several unique initiatives taken by different E-Commerce Organisations. A couple of them are below mentioned.

Storeking: This organization is a startup business set up in Karnataka to serve the people residing in villages. Business model uses the shop area of locally known retailer of village and puts kiosk over there. As per terms of this business-model, an initial deposit of Rs 10,000 should be made by retailer (in whose premises kiosk is placed) in favour of Storeking. Retailer gets a variable commission upto 10% on every sale. Once customer has made full payment to the retailer, order request is made through the kiosk. As a result, ordered product will be delivered in two days' time. For delivery purposes Storeking uses the existing channel of retail goods delivery used by the shopkeepers. Most important element is the language used in kiosk is local language. This made the purchase process very easy for the rural customers. They can choose the required product from the list of products mentioned in the kiosk. Therefore, they need not to have any personal internet connection for such purchases. Customers don't get heavy discounts on their purchases in this method of retailing but they get desired product in the specified time. Surprisingly, among most saleable products in villages by Storeking, one is anti-ageing cream.

E-Swasthya: Another unique effort is made by; Piramal Group's E-Swasthya. It was established in 100 centres in villages and treated close to 86000 patients in recent past, in three districts of Rajasthan. It arranges medical consultancy and drugs at the doorstep of villagers by using telemedicine model. In this model organisation provides training to an educated lady of the village and supports her with medicines and a mobile phone for curing others with organizational efforts. Therefore, with the help of electronic infrastructural support different types of value additions can be achieved in the society.

CONCLUSION

As it can be understood with the above mentioned information that among several causes of changes in Indian e-tail industry prominent ones are significant change pattern in technology adoption, increasing number of internet users, inclusion of rural customers in technology adoption, favourable demographic changes, increasing average internet speed etc. Such causes have resulted in material impacts on society including increasing internet penetration, increasing internet

related industry size, fresh investment inflow in internet related businesses, enhancing share of e-tail in total retail industry, growing participation of internet related industry in GDP, more opportunities to SMEs etc.

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A STUDY ON TWO WHEELER PURCHASING PATTERN OF COLLEGE STUDENTS IN KOTTARAKARA TALUK

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ABSTRACT

The study finds out that purchasing pattern is the decision process and physical activity engaged in when evaluating, acquiring, using or disposing of goods and services. The present study reveals that there is a heavy demand for Honda motorcycles in the market, so their supply has to be drastically improved so as to meet the demand of the customer. Two wheelers with attractive design can be introduced to attract more customers. The main aim of marketing is to meet and satisfy target customers' needs and wants. The field of consumer behaviour studies states that how individuals, groups and organization select, buy, use and dispose of goods, service, ideas, or experience to satisfy their needs and desires understanding consumer behavior and knowing customer are never simple. The wealth of products and service produced in a country make our economy strong. The behaviour of human being during the purchase is being termed as "Buyer Behaviour". They may not be in touch with their deeper motivations. It consists of mental and physical activities which consumers undertake to get goods and services and obtain satisfaction from them. It includes both observable activities such as walking through the market to examine merchandise and making a purchase and mental activities-such as forming attitudes, perceiving advertising material, and learning to prefer particular brands. Purchasing pattern and consumer behaviour are very complex and dynamic, therefore, management needs to adjust with the change otherwise market may be lot. The individual's specific purchasing pattern of behaviours in the market place is affected by internal factor, such as need, motives, perception, and attitudes, as well as by influences such as the family social groups, culture, economics and business influences.

KEYWORDS

Kottarakara Taluk, college students, purchasing patterns, two wheeler.

1. INTRODUCTION

Consumer psychology studies how things like thoughts, culture and motivations impact how and why people buy products and services. Consumer psychology is a specialty area that studies how our thoughts, beliefs, feelings and perceptions influence how people buy and relate to goods and services. Consumer behavior is useful in how consumers choose businesses, products and services, the thought processes and emotions behind consumer decisions, How environmental variables such as friends, family, media and culture influence buying decisions, What motivates people to choose one product over another, How personal factors and individual difference affect people's buying choices, What marketers can do to effectively reach out to their target customers. Under this scenario understanding the consumer buying behavior of motorcycle users allows the marketers to gain insights into why individuals act in certain consumption related ways and with learning what internal and external influences compel them to act as they do.

Buying behavior emerged as a distinct field of study during the 1960s, in which the traditional perspective the positivist paradigm is characterized by a holistic consideration of the economic, behavioral, cognitive, motivational and situational angles. Non-situational factors refer to any general and lasting attributes of the consumer and the product, such as individual personality traits, brand image and quality, while situational factors generally refer to all other factors that are beyond the knowledge of the consumer and the product, which exert a demonstrable influence on behavior. Here in this study we are trying to analyse what influence and motive them to buy two wheeler, what are their preference and satisfaction level. So the study of consumer buying behavior of two wheeler users will be helpful to producers to design and redesign marketing strategies to influence consumption decision of buyer. At the same time, it will be very useful to customers while making their purchase decision. The study of buying behavior of motor cycle users is felt relevant in today's changing market environment of two-wheelers.

2. STATEMENT OF THE PROBLEM

In today's intensely competitive environment, companies are constantly looking for ways to attract customers by having a better understanding of changing customer preferences. Customers have now changed their attitude that yesterday's luxuries are today's necessities. To be a successful marketer it is absolutely essential to study the perceptions of the prospective buyers. The present study entitled "A study on two wheeler purchasing pattern of college students" attempts to analyses the buying behavior of college students towards the purchase of two wheelers, the product related and socio- economic factors affecting their purchase and their brand preference.

3. SCOPE AND SIGNIFICANCE OF THE STUDY

The modern marketing management tries to solve the basic problems of consumers in the area of consumption. It will be extremely useful in exploiting marketing opportunities and in meeting the challenges that the market offers. Knowledge about buying behavior helps in formulating of production policy. Various factors will influence the purchasing pattern and buying behavior of customers. It differs from individual to individual. An understanding of the purchasing pattern will help the producers to face competition and introduce innovative ideas to attract customers. Two-wheeler is a popular model of vehicle, especially among youngsters. A variety of models are available today with variety of features. It is very important to understand the factors affecting the purchase of two wheelers and the buying behavior of its customers especially among college students as this is one form of vehicle which is most popular among them. The present study is limited to the college students in kottarakara taluk.

4. OBJECTIVES OF THE STUDY

The main objectives of the study are as per following:

1. To study the purchasing pattern of two wheelers used by college students.
2. To know the brand preference of two wheelers.
3. To study the influence of product related factors like fuel efficiency, convenience, easy handling, size, color, etc. in the purchase of two wheelers.
4. To study the influence of socio-economic factors like price, social status, fashion, professional background, travelling convenience, income level etc. in the purchase of two wheelers.

5. RESEARCH METHODOLOGY**RESEARCH USED**

The study is based on descriptive research.

SAMPLE DESIGN

The population of the study was identified as the college students of kottarakara taluk. A sample of fifty students has been selected by using judgment sampling technique. The sample respondents are only college students who own two wheelers.

COLLECTION OF DATA

Both primary and secondary data were used for this study Primary data were collected through questionnaire. Secondary data for this study were collected from Books, Magazines, Internet and Websites.

STATISTICAL TOOLS USED

The collected data were analysed by using appropriate statistical and mathematical tools like simple average, percentage and ranking tables and also used SPSS software.

6. LIMITATIONS OF THE STUDY

1. This work is only descriptive and conclusion and observation are general in nature.
2. Some of the students cannot co-operate for collecting primary data.
3. The responses from the students are influenced with the bias and prejudices.

7. PURCHASING PATTERN- AN ANALYSIS

The present study is about "A Study on Two Wheeler Purchasing Pattern of College Students in Kottarakara Taluk. The study intends to analyse the buying behavior of college students in purchasing two wheelers, their brand preference and the influence of product related factors like fuel efficiency, convenience, easy handling, size, color etc. and socio economic factors like price, brand name, social status, professional background etc. Primary data for this study is collected from fifty college students by using questionnaires. Judgement sampling technique was adopted for selecting the sample respondents.

TABLE 1: AGE WISE CLASSIFICATION

Age	No. of Respondents	Percentage
18-20	29	58
21-23	12	24
Ab 24	9	18
total	50	100

Source: SPSS

INTERPRETATION

The above table and graph clearly shows the age wise classification of respondents. 58 percent of the respondents are in the age group 18-20 and 18 percent are above the age 24.

TABLE 2: COURSE OF STUDY

Course	No of Respondents	Percentage
U G	38	76
P G	12	24
Total	50	100

Source: Primary data SPSS

INTERPRETATION

The above table and graph clearly shows the course wise classification of respondents. 76 percent of the respondents are UG students and 24 percent are PG students.

TABLE 3: GENDER WISE CLASSIFICATION

Gender	No. of respondents	Percentage (%)
Male	30	60
Female	20	40
Total	50	100

Source: Primary data SPSS

INTERPRETATION

The above table and graph clearly shows the gender wise classification of respondents. 60 Percent of the respondents are male and 40 percent are female.

TABLE 4: BRANDS OF TWO WHEELERS

Two wheelers	No. of respondents	Percentage (%)
Bajaj	10	20
Honda	15	30
Hero	8	16
TVS	9	18
Yamaha	8	16
Total	50	100

Source: Primary data SPSS

INTERPRETATION

The above table and graph clearly shows the brands of two wheelers that the respondents are using. Majority of respondents are using Honda, 30 percent of the respondents are using Bajaj

TABLE 5: YEARS OF USING TWO WHEELER

Years	No. of respondents	Percentage (%)
1-3 years	37	74
4-6 years	12	24
7-8 years	1	2
Total	50	100

Source: Primary data SPSS

INTERPRETATION

The above table and graph clearly shows the number of years the respondents are using two wheelers. 74 percent respondents are using two wheelers for 1-3 years, 24 percent in 4-6 years and 2 percent of respondents are using for 7-8 years

TABLE 6: PREVIOUSLY USED TWO WHEELER BRAND

Two wheelers	No. of respondents	(%)
Bajaj	8	16
Honda	13	26
Hero	14	28
Tvs	9	18
Yamaha	6	12
Total	50	100

Source: Primary data SPSS

INTERPRETATION

The above table and graph clearly shows the information regarding the previously used two wheeler brand. Most of the respondents have used the brand Hero (28 percent) and Honda(26 percent).Only 12 percent have used Yamaha brand.

TABLE 7: FACTORS AFFECTING PURCHASE OF TWO WHEELERS

Factors	Total weight	Rank
Driving comfort	180	1
Out look	96	2
Fuel efficiency	66	3
Quality of service	40	4
Resale value	4	5

Source: Primary data SPSS

INTERPRETATION

The above table and graph clearly shows the weighted preference for purchasing the present brand of two wheelers. The most important factor affecting two wheeler purchases is driving comfort which is given first rank then outlook and fuel efficiency. Quality of service is given fourth rank and Resale value is the least preference.

TABLE 8: SOURCES OF INFORMATION

	No. of respondents	(%)
Print media	14	28
Broadcasting media	14	28
Hoarding	7	14
Word of mouth	15	30
Total	50	100

Source: Primary data SPSS

INTERPRETATION

The above table and graph clearly shows the sources of information about brand. 30 percent of respondents got information through word of mouth, 28 percent of the respondents got information from print and broadcasting media and 14 percent got from hoarding

TABLE 9: SOURCE OF FINANCE

Source of finance	No. of respondents	(%)
Bank loan	10	20
Finance company	6	12
Self-financing	8	16
From parents	26	52
Others	0	0
Total	50	100

Source: Primary data SPSS

INTERPRETATION

The above table and graph clearly shows sources of finance for purchasing two wheelers. Most of respondents (52 percent) receive finance from their parents and least of the respondents depend on finance company.

TABLE 10: PRODUCT RELATED FACTORS

Factors	Total weight	Rank
Easy handling	168	1
Price	120	2
Mileage	64	3
Size	42	4
Colour	20	5
After sales service	8	6

Source: SPSS

INTERPRETATION

The above table and graph clearly shows the weighted product related factors which affects the purchase of two wheelers. Easy handling and price are the two important product related factors which is given the first two ranks. After sale service is given the sixth rank.

TABLE 11: AFTER SALES SERVICE

Response	No. of respondents	(%)
Excellent	12	24
Good	24	48
Poor	14	28
Total	50	100

Source: Primary data SPSS

INTERPRETATION

The above table and graph clearly shows the respondents opinion about after sales service. 48 percent respondents are of the opinion that after sales services are good and 28 percent are of the opinion that it is poor.

TABLE 12: SOCIO ECONOMIC FACTOR

Factors	Total weight	Rank
Travelling convenience	168	1
Social status	84	2
Income level	40	3
Professional background	10	4

Source: Primary data SPSS

INTERPRETATION

The above table and graph clearly shows the rank of weighted socio economic factors that affect the purchase of two wheelers. Travelling convenience and social status are given the first two ranks. Professional background is ranked fourth.

TABLE 13: SATISFACTION OF THE SALES PROMOTION TECHNIQUES

Opinion	No. of respondents	(%)
Yes	40	80
No	10	20
Total	50	100

Source: Primary data SPSS

INTERPRETATION

The above table and graph clearly shows that 40 percent respondents are satisfied with sales promotion technique and 10 percent are dissatisfied.

TABLE 14: SALES PROMOTION TECHNIQUES

Opinion	No of respondents	%
Celebrity advertisement	9	23
Discount	13	32
Full finance zero percent	6	15
Free service	8	20
Instant draw and assigned gift	4	10
TOTAL	40	100

Source: primary data SPSS

INTERPRETATION

The above table and graph clearly shows that 32 percent respondents are satisfied with the discount and 10 percent are satisfied with Instant draw and assigned gift offered by the company.

TABLE 15: OPINION ABOUT OWNING A TWO WHEELER

Response	No. of respondents	(%)
Necessity	25	50
Status	21	42
Luxury	4	8
Total	50	100

Source: Primary data SPSS INTERPRETATION

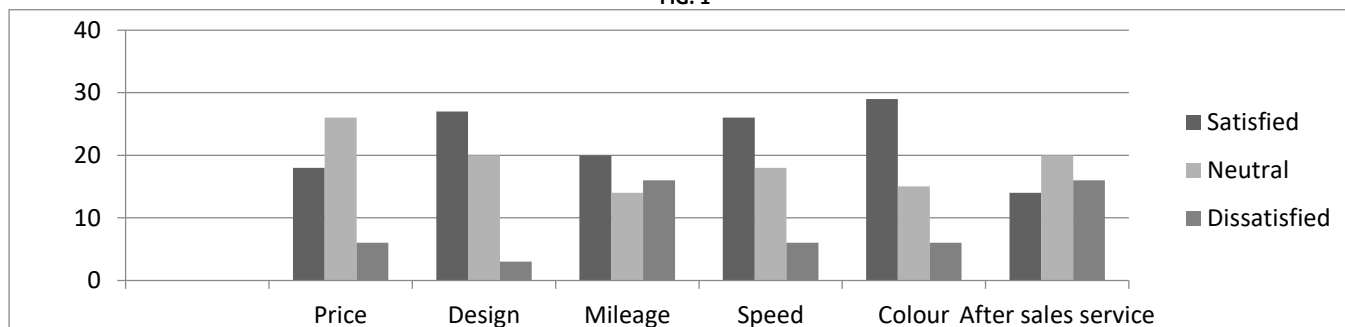
The above table and graph clearly shows that the respondents opinion about owning a two wheeler. 50 percent of the respondents are of the opinion that owning a two wheeler is a necessity. Only 8 percent are having an opinion that owning a two wheeler is a luxury.

TABLE 16: LEVEL OF SATISFACTION

Level	Satisfied		Neutral		Dissatisfied	
	No. of respondents	Percentage (%)	No. of respondents	Percentage (%)	No. of respondents	Percentage (%)
Price	18	36	26	52	6	12
Design	27	54	20	40	3	6
Mileage	20	40	14	28	16	32
Speed	26	52	18	36	6	12
Colour	29	58	15	30	6	12
After sales service	14	28	20	40	16	32

Source: Primary data SPSS

FIG. 1



Source: SPSS

INTERPRETATION

The above table and graph clearly shows the respondent's satisfaction level towards factors like price, design, mileage, speed, colour, after sales service etc. Majority of the respondents are satisfied with color, design and speed and their satisfaction level towards after sales service is poor.

9. FINDINGS, SUGGESTIONS AND CONCLUSION**FINDINGS**

Following are the major findings of the study

1. Most of the respondents are in the age group of 18-20 years. The tendency and need to purchase is more at this age. (58%)
2. Majority of respondents belongs to under graduate courses. It shows heavy demand of two wheeler for their lively hood. (76%)
3. 60 percent of the respondents are boys and 40 percent are girl's students.
4. Hero Honda is Rulling the market and find favour with the students because majority of respondents are using Honda Brand two wheeler (30%)
5. Most of the respondents (74 percent) are using two wheelers for 1-3 years.
6. Majority of the respondents (28 percent) are used previously Hero brand two wheeler.
7. Driving comfort is an important factor which affects the purchase of two wheelers
8. Word of mouth serves as an important source of information
9. Majority of respondents (52 percent) are getting finance from their parents for purchasing two wheelers.
10. Easy handling and price are the two important product related factors influencing the purchase of two wheelers
11. Readily after sale services, most of the respondents have responded very good for services (48%)
12. Travelling convenience and social status are the two important socio economic factors which influence the buying of two wheelers.
13. 80 percent of the respondents are satisfied with the sales promotion technique.
14. Majority of the respondents (32 percent) are satisfied with the discount freely offered by the company.
15. Most of the respondents (50 percent) are of the opinion that Owning a two wheeler is a necessity.
16. Respondents are satisfied with the factors like color (58 percent), design (54 percent), speed (52 percent) etc.

SUGGESTIONS

Following suggestions can be used

1. There is a heavy demand for Honda motorcycles in the market, so their supply has to be drastically improved so as to meet the demand of the customer.
2. Two wheelers with attractive design can be introduced to attract more customers.
3. Word of mouth is an important source of information so organization should try to improve the customer relationship
4. After sale service is an important factor for attracting and retaining the customers. So companies should give due importance to this aspect also.

CONCLUSION

Purchasing pattern is the decision process and physical activity engaged in when evaluating, acquiring, using or disposing of goods and services. The present study reveals that there is a heavy demand for Honda motorcycles in the market, so their supply has to be drastically improved so as to meet the demand of the customer. Two wheelers with attractive design can be introduced to attract more customers. The main aim of marketing is to meet and satisfy target customers' needs and wants. The field of consumer behaviour studies states that how individuals, groups and organization select, buy, use and dispose of goods, service, ideas, or experience to satisfy their needs and desires understanding consumer behavior and knowing customer are never simple. The wealth of products and service produced in a country make our economy strong. The behaviour of human being during the purchase is being termed as "Buyer Behaviour". They may not be in touch with their deeper motivations. It consists of mental and physical activities which consumers undertake to get goods and services and obtain satisfaction from them. It includes both observable activities such as walking through the market to examine merchandise and making a purchase and mental activities-such as forming attitudes, perceiving advertising material, and learning to prefer particular brands. Purchasing pattern and consumer behaviour are very complex and dynamic, therefore, management needs to adjust with the change otherwise market may be lot. The individual's specific purchasing pattern of behaviours in the market place is affected by internal factor, such as need, motives, perception, and attitudes, as well as by influences such as the family social groups, culture, economics and business influences.

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HUMAN INTERACTION WITH SMART MOBILE PHONE

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ABSTRACT

The intersection of computer science and behavioral sciences, this field involves the study, planning, and design of the interaction between people (users) and smart mobile phones. Attention to human-machine interaction is important, because poorly designed human-machine interfaces can lead to many unexpected problems. Now days the new generation are tech – savvy and they are born in the digital age. The study here aims at to find out the improved user interfaces or interaction techniques. There are several problems associated with the using of smart mobile phones. Those problems are mainly associated the various demographic factors. Most of the people doesn't have any awareness in using the mobile phones. These problems can be overcome through user-friendly apps and proper advertisement. Well-formed questionnaire about the new ideas for uses interfaces invite observation and measurement of human interaction with technology of interest. Few information has been collected through perception also.

KEYWORDS

smart mobile phone, human-machine interfaces.

INTRODUCTION

The new smart mobile phones were not only powerful; they were useable by anyone. Mobile phones moved from their earlier secure confines on to people's desks in workplaces and more important into people's homes. One reason human interaction with smart mobile phone is so exciting that the field's emergence and progress are aligned with and in good measure responsible for this dramatic shift in computing practices.

The most center is the field of human factors or ergonomics. Human factors are both a scientific and a field of engineering. It is concerned with human capabilities, limitations and performance and with the design of systems they are efficient, safe, convenient and even enjoyable for the human who use them. The needs and behavior characteristics of the users will talk about the user interface or the human factors of computing.

Smart mobile phones have many implications for the design of the user interface. These devices share a common problem; attempting to give users access to powerful computing services and resources through small interfaces, which typically have tiny visual displays, poor audio interaction facilities and limited input techniques. They also introduce new challenges such as designing for intermittent and expensive network access, and design for position awareness and context sensitivity.

In addition to mobility and size requirements, mobile devices will also typically be used by a larger population spread than traditional PCs and without any training or support networks.

GROWTH OF HCI AND GRAPHICAL USER INTERFACES (GUIs)

GUIs entered the mainstream and consequently a much broader community of users and researchers were exposed to this new genre of interaction. Microsoft was a latecomer in GUIs. Microsoft windows was considered a serious alternative to the Macintosh operating system. Microsoft operating systems for desktop computers have a market share of about 84 percent compared to 15 percent of Apple. (www.statowl.com)

HUMAN FACTORS

Smart mobile phones are designed and built and they function in rather strict terms according to their capabilities. There is no parallel with humans. A system might work well for a subset of people, but venture to the edges along any dimension and the system might work poorly or not at all.

HUMAN PERFORMANCE

Human use their sensors, brain and respondents to do things. Before performance is typically associated with faster or more accurate behavior and this leads to a fundamental property of human performance. Human position themselves on a speedy – accuracy trade off in a manner that is both comfortable and consistent with their goals. With human performance, we begin to see complexities and challenges in human interaction with technology that are absent in traditional sciences such as physics and chemistry. Human bring diversity and variability and these characteristics bring imprecision and uncertainty.

STATEMENT OF THE PROBLEM

There are several problems associated with the using of smart mobile phones. Those problems are mainly associated the various demographic factors. Most of the people doesn't have any awareness in using the mobile phones. These problems can be overcome through user-friendly apps and proper advertisement.

OBJECTIVES

1. To study the knowledge of using smart mobile phones by various users.
2. To analyze the various factors influencing the usage of smart mobile phones.
3. To offer suggestions as how to make user friendly.

SCOPE OF THE STUDY

The significance of the study is to analyze about the usage of smart mobile phones, and this study helps to find out the factors influencing the usage of smart mobile phones and the outcomes through the factors influencing the usage of smart mobile phones. The current problem is that most of the users not aware about the new app and the usage. The result of the study will help the public and the company to have good user friendly smart mobile phones.

RESEARCH DESIGN

The research design used for this study is descriptive type. Descriptive research studies are those studies which are concerned with describing the characteristics of a particular individual or a group.

SAMPLE SIZE

A sample size of 200 was used for this study. The information was obtained through a well-designed questionnaire which was collected through online and enumerators.

ANALYSIS AND INTERPRETATION

TABLE NO. 1: SMART MOBILE PHONE USAGE BY MALE AND FEMALE

Male		Female	
Mean	60	Mean	40
Standard Error	45	Standard Error	10
Median	60	Median	40

Source: Primary data

Interpretation

It has been inferred that most of the male are using the smart mobile phones when compared to the females and the age groups are in between 20 to 29.

TABLE NO. 2: EMAIL MESSAGE RECEIVED EACH DAY

SUMMARY OUTPUT								
<i>Regression Statistics</i>								
Multiple R	0.515403242							
R Square	0.265640501							
Adjusted R Square	0.020854002							
Standard Error	15.07189011							
Observations	5							
<i>ANOVA</i>								
	<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>Significance F</i>			
Regression	1	246.5143854	246.5143854	1.085192615	0.374106123			
Residual	3	681.4856146	227.1618715					
Total	4	928						
	<i>Coefficients</i>	<i>Standard Error</i>	<i>t Stat</i>	<i>P-value</i>	<i>Lower 95%</i>	<i>Upper 95%</i>	<i>Lower 95.0%</i>	<i>Upper 95.0%</i>
Intercept	8.132519616	10.12276657	0.80338903	0.480509222	-24.08264146	40.3476807	-24.0826415	40.34768069
Male	0.327811683	0.314681356	1.041725787	0.374106123	-0.673644835	1.3292682	-0.67364483	1.3292682

Source: Primary data

It is observed that the emails received during a day maximum is 6-25 messages per day and most of the males are checking it often when compared to females. And also it is observed that zero messages and the messages greater than 100 are very few. It is also observed that there is a positive relationship between the male and female in receiving the emails.

TABLE NO. 3: IS IT SAFE TO READ A TEXT MESSAGE WHILE DRIVING?

S. No	PARTICULARS	NUMBER OF RESPONDENTS	Cumulative frequency	PERCENTAGE OF THE RESPONDENTS
1	Strongly agree	2	2	1
2	Agree	6	8	3
3	Neither agree nor disagree	16	24	8
4	Disagree	118	142	59
5	Strongly disagree	58	200	29
Total		200		100

Source: Primary data

Most of the respondents said it is not safe to read text a message while driving, still few of them strongly agree to read the text message.

TABLE NO. 4: OPINION ON YOUR INTERACTION TECHNIQUES

S. No	PARTICULARS	NUMBER OF RESPONDENTS	Cumulative frequency	PERCENTAGE OF THE RESPONDENTS
1	Strongly agree	6	6	3
2	Agree	60	66	30
3	Neither agree nor disagree	68	134	34
4	Disagree	54	188	27
5	Strongly disagree	12	200	6
Total		200		100

Source: Primary data

Most of the respondents agree that they are interacting mostly by using the smart mobile phones, they find it easy to interact.

TABLE NO. 5: DISTRACTIONS WHILE DRIVING

S. No	Factors	No Distraction	Call answering	Text messages	Total
1	Male	80	38	2	120
2	Female	80	20	0	80
Total		130	58	2	200

Source: Primary data

It is observed that most of the males said there is no distraction while driving when compared to females and the males are mostly answering the calls and texting also but the females are less in answering the calls and they are not willing to text while driving.

TABLE NO. 6: USING GPS WHILE DRIVING

S. No	Factors	Yes	No	Total
1	Male	90	30	120
2	Female	20	60	80
	Total	110	90	200

Source: Primary data

It has been observed that most of the males are using their GPS while driving when compared to female.

TABLE NO. 7: GARATTE RANKING – FACTORS MOSTLY USED BY SMART PHONE USERS

SI NO	Factors	Grant mean score	Rank
1	Health information	49.1	III
2	Online banking	56	I
3	Cooking information	48	IV
4	Online Purchase and payments	51	II
5	Job information and other services	45.8	V

Source: Primary data

From the above table it is observed that most of the respondents are using online banking through their smart phones, followed by online purchase and health information and the least factors which they are using are cooking information and job related information.

SUGGESTIONS

The following are the few suggestions suggested by the respondents apart from the normal research study.

Most of the respondents felt the mobile phone should be user friendly.

It would be better if it is non-breakable; most of the respondents prefer it should be long lasting too.

Few mobile phones are over heated when it is used for a long time and the battery is also sometimes down at the crucial time, it would be better if you have one by overcoming this difficulty.

Signal catching is sometimes a biggest problem, very difficult especially in remote places.

Windows are not visible sometimes and hanging too during important times.

The app of calculator and the font sized used in that should be user friendly.

The choice of colour should be user friendly.

The pixel quality should be good.

The advertisement for these mobile phones are good but there are many problems like connectivity should be rectified.

RAM should be improved because when you download the speed will go.

CONCLUSIONS

From the study, it is clear that the respondents are expecting so many new apps and features and in this modern scenario this mobile phone plays a vital role. Country like India, as the population is more and it is always imperative that it should be with less price and good quality.

LIMITATIONS

- ❖ Very few researches have done research in this invested topic so the researcher could not get an elaborate review.
- ❖ This study has used a sample size of 200 for its analysis, since it is very small the result will not be a generalized one.
- ❖ The time available for the researcher for this study was limited so the researcher could not conduct an elaborate study.
- ❖ Busy schedule of the staff in the organization prevented the researcher from giving more details for the study.

SCOPE FOR FURTHER RESEARCH

1. To find the significant areas in implementing mobile app in a work environment.
2. To study the preferred human resource information system software for the HR professionals.
3. To study the need of psychology in managing the human computer interaction.
4. To study how effectively the mobile app plays a vital role in user friendly interaction.

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POLITICIZATION OF STUDENTS' UNIONS: A STUDY IN BHUBANESWAR, ODISHA

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ABSTRACT

The study aimed to find out whether student leaders were drawn from politicized families and whether participation or non-participation of their parents in politics had any bearing on the emergence of student leadership. Also, the study also examined their roles and responsibilities of being leaders and look at how far the patron-client relationships exists between the political leaders and students' union. The sample consists of 120 students representing from 14 different colleges of Bhubaneswar. 73 (60.8%) are 1st-year students; 27 (22.5%) are 3rd year and 13 (10.8%) are 1st-year students; 5 (4.2%), NA and 2 (1.7%). The findings of this study on students' opinions on social justice have been presented given participants' socio-political, economic and cultural backgrounds. This study has shown that students thought socio-economic status and political views were two factors most likely to expose an individual to injustice in India. The study recommends that the future research should focus on a specific aspect of benefits such as social movement or social justice.

KEYWORDS

Odisha, politicization, student leaders.

INTRODUCTION

Students, as a social category, constitute an essential element in the economic and political development in many of the countries. Social students observe student as prospective members of the elite (Hazari, 1982; Lipset, 1967) of their countries and as an "incipient elite" or an "emerging elite" (Aitbach, 1966), as they hold a significant position in any discussion of the social movement. By virtue of their exposure to education and intellectual trends, youthful idealism and unbounded energy, comparative freedom from a job, family responsibility and acute political awareness, they present a readily mobilizable compact mass which when harnessed, has generated a considerable force that has produced an immediate impact on society and influenced the pace of social change. Evidence across the world, had showed that student's movement have played a crucial role in anti-authoritarianism movements particularly among the developing and developed communities in their national liberation movements in the recent past in different parts of the world such as in Germany and Austria, England, the US and Chinese revolution in 1848 (Dutta, 1998).

India is rather unique among Asian countries in having less (e.g. refugee movement in Arunachala Pradesh (Prasad, 2007) or no massive student movement of an all India dimension after Independence (e.g. Gandhi's non-cooperation movement). However, student strikes and agitations have from time to time, rocked many Universities and shaken many State governments. While student protest politics of various kinds and intensity, related mostly to campus-oriented issues occur in every state, some of the States have been affected by significant student agitations concerning broader political issues (Hazary, 1988). As potential members of the elite, their political behaviour and orientation have far-reaching significance for the emerging political culture of their societies. Student politics is becoming an increasingly critical component of national politics (Hazary, 1988). The present paper explores the characteristics of student union leader and their motivating factor for their participation in the student union and further it also clarified the roles and responsibilities of the student's union leader along with the benefit they provide as a student leader focusing on Odisha State.

The paper is structured as follows: The first section sets the theoretical background for the study by critically analysing the theories behind the student politicization. This is followed by the brief explanation of the past studies that have conducted earlier which would enable the researcher to identify the gap and need for the study. The section focused on the methodology while third on results and finally the section concludes with discussion and conclusion.

THEORETICAL FRAMEWORK: HOW STUDENTS POLITICIZED?

Liberal education theory explains students' politicization by focusing on the values disseminated by universities as liberal institutions (Rootes, 1980, 1986, 1995). The main reason behind student radicalism is to be found in the transformation which occurred in higher education during the 1970s. It was the introduction of Marxist theory and political concepts such as class and social justice into the university curriculum that had the effect of neutralizing much of the hostility bourgeois socialization has toward political ideas, and to create the demand for a less constrained political debate (Rootes, 1980). This theory label why students at the University, preferably than secondary students and youth in general, are copious in protests (an aspect overlooked by generational gap theory). Political concepts get amalgamated amongst the students at the university during their exposure to such instances. This is especially witnessed in students pursuing social science and humanities who are advocated liberal and critical thinking at learning tenure. This theory is further supported by Marsh's (1977), who dealt with comparing students based on views, and activities on various perspectives of the university. The politicization taking place at universities seems to have long-term effects. Sherkat and Blocker (1997) compared activists in the 1960s and early 1970s with their non-activist counterparts at two points in time and found that former protesters, besides more highly educated, tend to be (and remain over time) more liberal than non-protesters. The vast majority of activists involved in British direct action networks interviewed by Doherty *et al.* (2003) were 'high educational achievers'. Although these studies do not provide any evidence of the long-term impact of higher education, they imply a sustained correlation between higher education, liberal values, and radical political participation. However, knowledge and critical thinking skills do not necessarily lead to 'politicization', let alone getting involved in social movements. Sometimes students rebel in support of non-liberal agendas or contexts. For example, in Iran students have been at the forefront of pro-democracy protests, and they emerged in an illiberal educational context (though, in relative terms, universities are more liberal than other contexts in the Iranian society). Conversely, Islamic extremist groups in western campuses can be considered to embody non-liberal values. According to Munson (2010), university campuses in the US have played a crucial role in the rise of conservative movements over the last 40 years.

Liberal education theory can be supplemented with political engagement theory. This argues that without political interest and information, individuals will not participate in political activity (Putnam, 2000; Schussman and Soule, 2005; Verba *et al.*, 1995) and those with liberal or progressive political views tend to protest disproportionately (Dalton, 2002). Since the 1990s, direct action has been considered not only a radical tactic used at protests but sometimes even a defining feature of a social movement (Doherty *et al.*, 2003). It is radical because it often involves illegal and confrontational actions leading to arrests such as spilling fake blood in contested banks though physically harming violence is rarely used. The emphasis is on creativity, symbol and humour. The association between left-wing values/tactics and protest might be due to a general left-wing bias in the selection of protests (Corrigall-Brown, 2011) and this should be acknowledged. While political interest and knowledge alone do not translate into politicization and mobilization, the reverse can be true (Downton and Wehr, 1977; McAdam, 1986, 1988). Many people, for example, become committed activists after attending a protest by chance. Since universities are still liberal and reflexive institutions (Delanty, 2001), with social sciences and sociology in particular mostly remaining critical disciplines (Bourdieu, 1993) at the service of the public (Bourdieu, 2005), if liberal education plays a role in student radicalism, we should still find evidence today.

The majority of the defence of activism and politicization of students descend into one of two, in the same manner, camps and problematic. Few focus on youth psychology, asserting that young people have problems that find declaration in protest of politics (Smelser, 1968). The problem with these explanation types is

that they pertain to young individuals in common when the confirmation suggests that it is students in specific who are disproportionately politically active. Some other defence indicates that the impact of the value of liberal education and the inculcation of a critical thinking capacity within the context of University (Marsh, 1977). The issue with this kind of defence that the students do not invariably mobilize around the causes of liberal or in contexts where the values of liberal and critical thought are persuaded. They have deployed around differently in illiberal forms of politics such as Islamic fundamentalism, national socialism and have contexts of education such as Iran and China (Crossley, 2008; Ibrahim, 2010). Moreover, a study by Crossley (2008) has made a comparison with behaviours and political inclinations between undergraduates and sixth formers in examining important group membership and political activity. Their study revealed that no significant difference in political attitudes and identities. In addition, studies also recommend that opaque networks individually when actors are fastened to one other in various ways (multiplexity) and cause support, trust, solidarity and incentives (Bott, 1957; Coleman, 1988, 1990; Gould, 1993, 1991; Mcadam, 1982; Milroy, 1987).

PAST STUDIES ON POLITICIZATION STUDENT UNION

A study by Crossley and Ibrahim (2012) explored the role of critical mass and social network in the generation of collective action among students where they found that students strong tie likely to relate to student politics which gives rise to critical mass per se. Further, student union plays a significant role where members are networked and allows like-minded actors to find one another from the bonds that will support collective action. Similarly, other studies are being conducted in Ghana (Finlay, 1968), and Malaysia (Silverstein, 1970).

There are few studies have been carried out in India. For instance, Sayeed (1973) examined the Lucknow University student's union motivational factors to take part in Unionism with the sample size of 26 students. The findings showed that student leadership is not a natural phenomenon as only 23 percent leaders came from politicized families while majority enter incidentally which illustrates that it was only a conglomeration of chance and circumstances. Further, the findings showed that majority of the leaders had no record of political participation when they entered the university, and departmental associations and the Youth organisation had a significant role in evoking and developing the interest of the students in political activities. Later, Syed (1975) studied the characteristics of student leadership among a survey of 220 student leaders from Lucknow University, and findings showed that majority stay at home, have contact with village regularly (Syed, 1975). Similarly, the profile of the student political elites in Odisha was conducted by Hazary (1982) where the findings showed that majority belongs to the middle-class family background while majority came from rural areas, literate families, and Hindus, which was consistent throughout 1938-1969. Further, the study showed that student leaders need not necessarily belongs to parents whose primary occupation is politics or an independent vocation. But other 43.7% of students belong to apoliticized family which could be a stimulating factor. Students who belong to arts do involve in the student union and those students who stayed in hostels did show higher involvement. However, concerning academic performance, and quality of leadership did not show any conclusive evidence.

The majority of the studies in contemporary social science had focused on campus activism (Jayaram, 1979) or more descriptive papers (Sinate, 2009) that discuss student union in particular university (Karat, 1975). However, the nature of student government and politics is rarely studied. There are few studies have been conducted with the focus on the politicization of student union, but those studies are limited to India. The majority of the studies have been focused on Western context and others in African Countries. Studies conducted in India had methodological limitations where Sayeed (1973) looked at only the motivational factors to take part in the student union with less than thirty sample size. While the study by Hazary (1982) confined to one institution and its limitation accruing from the lack of comparison with other educational institution of the state. Oommen (1974) analysed the institutional context in which student politics takes place, the process of recruitment of leaders and their socio-economic background among students confined to Delhi University for the academic year 1968-69. Findings showed that the student participates in decision-making activity, and only a few students on the campus take an active interest in these political organisations unless of course they aspire to become political leaders. The role of political parties in the University Union elections had an unhealthy influence on University student politics, not because of the role of ideology in elections, but because of the monetary help that they extend to some candidates.

On the one hand, the winning candidate has to accept dictation from the party that provides financial support while the parties, in turn, must treat the President as a VIP to keep him under their influence. Particularistic factors such as religion, caste, language, region, etc., do not seem to affect substantially. Andersen and Pant (1970) looked at the social composition of Allahabad University and its effect on student politics. The findings showed similar profile where the majority of the students belong to Hindu, urban background but political connections as they tend to mobilize outside support either official or non-official against the administration. On the other, few studies did focus on the role played by a student organization to benefit the community especially in the matter of Chakma and Hajong refuge problem in Arunachal Pradesh. Sheth and Jain (1968) studied the status of local union leaders (Hazelrigg, 1970) and their characteristics.

Our study is different from the previous studies for the purpose of this paper is to add to these interpretations by examining the politicization of students' union and their roles and responsibilities to the betterment of community and society as a whole. In specific, the paper aimed to find out whether student leaders were drawn from politicized families and whether participation or non-participation of their parents in politics had any bearing on the emergence of student leadership and further looked what interested them in getting into politics and unionism, whether a natural inclination towards politics or any forces which stimulated them to take part in active politics at the University stage. The study also examined their roles and responsibilities of being leaders and look at how far the patron-client relationships exists between the political leaders and students' union and finally, whether being as student union leader benefit individual students, institutions and community as a whole.

Although no methodological justification lies behind attempting this study at this particular point in time, viewing it retrospectively, researcher feels the period of the survey is crucial. At present, membership in Odisha University Student's union is a matter of option for a given college affiliated with the University. However, a new measure is being conned templated and discussed both at the teachers' and students' bodies, according to which membership in the Union would be compulsory for all colleges affiliated with the University. This would change the structure of the union regarding its composition, for the "prestige colleges", hitherto not affiliated with the union may become members. Secondly, the proposal to elect the union executives directly, by the entire student body, is gaining ground. If the proposal is implemented, the mode of functioning of the Union may change. However, there is an important substantive reason for undertaking this study at the present juncture.

Odisha has witnessed some major student agitations despite a general atmosphere of peace on the campuses. The anti-fee rise strike in 1951 and student participation in the movement against the SRC report in 1956 demanding the merger of two Oriya speaking regions with Odisha were the highlights of the 1950s. The Odisha student agitation in 1964 against the Ministry represents the high watermark of student political activism in Odisha. Students with the support of the opposition politicians and sympathy of the general public sought to focus attention on the alleged corrupt administration by the State Chief Minister and succeeded in forcing an investigation which ultimately led to the resignation of the Chief Minister causing considerable embarrassment to the Congress government. But these instances of effective, but sporadic and diffuse protest action by students did not result in an on-going student movement

Broadly speaking, student association in Odisha University can be divided into two types: voluntary and non-voluntary. The OSU is the official student body recognized by the University authorities as the spokesman for student interests. All the Unions in colleges affiliated with Odisha University are not affiliated with the OSU. Thus, in 1968-69 only 28 of the 48 colleges affiliated with OSA University were the student unions affiliated. However, students of member colleges of the Union have no option to stay out of the Union. In contrast to this, a voluntary student association is one initiated by the students and membership in it is a matter of personal preference. Student voluntary associations can be divided into three main types: political, cultural and social service associations. We will confine our discussion to political associations and those cultural associations with a political orientation.

METHOD

The study addresses the following research questions: 1) What is the socio-economic background of the student's union leaders; 2) How the process of political affiliations occurs among students; 3) How it works membership in organization in before and after Std. union functionary? The sample consists of 120 students representing from 14 different colleges of Bhubaneswar (73 (60.8%) are 1st year students; 27 (22.5%) are 3rd year, 13 (10.8%) are 1st year students; 5 (4.2%) are NA and 2 (1.7%) are ex-academic students, where 67.5% belongs to arts. While 18.3% are science students, followed by 8.3% and 5.8% are commerce and law students. The majority of the participants were male (61.7%), and the female was only represented one-third (38.3%) where 55% of them were 20-22 years' age group, 22.5

percent are below 20 years while other 27% belongs to 22+ years. This level of percentage does not change between genders. In Odisha education systems, the student placement examination is carried out by high school and students who are successful in the test can start university at the ages of 20-22 years (+3 educational qualification), which is the reason for the high mean age of the participants. Most of the students are of urban origin (75%) and live with their parents (95%) with a monthly income of 20000-40000 INR (41%) while the other had 40,000-50,000 INR (26.67%).

FINDINGS

The study findings are summarized by the socio-economic background of the student's union leaders, the association between sex and membership in the political organisation, further association between native place, education, present place of stay and type of membership. Additionally, second part covers the association between native place, education, present place of stay and year of membership, thirdly covers the association between membership in the political organization and socio-economic variables.

THE SOCIO-ECONOMIC BACKGROUND OF THE STUDENT'S UNION LEADERS

TABLE 1: SOCIO-ECONOMIC & DEMOGRAPHICAL DETAILS OF STUDENT UNION MEMBERS

Socio-Economic & Demographical	Frequency (n)	Percent (%)
Gender		
Male	74	61.7
Female	46	38.3
Age group		
Below 20	63	52.5
20-22	42	35.0
22-24	10	8.3
Above 26	5	4.2
Educational qualification		
+3	111	92.5
PG	9	7.5
Education background		
Arts	82	68.3
Commerce	10	8.3
Law	7	5.8
Science	21	17.5
Religion		
Hindu	117	97.5
Muslim	3	2.5
Caste		
General	45	37.5
OBC	58	48.3
SC	10	8.3
ST	7	5.8
Native place		
Rural	31	25.8
Urban	89	74.2
Present place of stay		
Hostel	32	26.7
With Parents	88	73.3
Membership in Political organization		
No	49	40.8
Yes	71	59.2
Position Holding		
Corporator	3	2.5
Sarpancha	11	9.2
Youth worker	6	5.0
Ward member	5	4.2
Jilaparisad	1	0.8
Samti member	5	4.2
NA	89	74.2

Table 1 presents the socio-economic and demographical features of student union members. Out of 120 members, the most of the members were males (62%) compared to females (38%). The majority of the student union committee members were in the age group below 20 years. The average ages of the members was 23 years. Only small amount of the members had the age 26 years and above. 93 percent of the members' educational qualification was +3 and rest of the members' educational level was post-graduation. Among the total of 120 members, 68 percent were art students, 18 percent were science students, eight percent were commerce students and 6 percent were law students. When considered the religion of student union members, most of the members were Hindus and three members are Muslim. The findings showed that none of the members belonging to the Christian faith. The reasons might be (i) Christian students were not interested in participating student union elections, (ii) Christian students were poorly integrated with the wider student community, (iii) Christian students were less politicized than non-Christian students and so on. Also, the most of the members were OBC and general category. The majority of the respondents from urban (74%) and rural with (26%). When the present place of stay is considered the majority of the respondents (73%) stay with parents while 27% stay in Hostel. 59 percent of the respondents are membership in the political organisation while 41 percent are not membership in the political organisation. When position holding is considered, 9 percent of respondents with Sarpanch position followed by 5 percent have a youth worker and least 1 percent has Jilaparisad.

TABLE 2: ASSOCIATION BETWEEN SEX AND MEMBERSHIP IN POLITICAL ORGANIZATION

Sex	Membership in Political Organization		Chi-Square (p value)
	No (n=49) n(%)	Yes (n=71)	
Male	37 (75.5)	37 (52.1)	6.714, p=0.010
Female	12 (24.5)	34 (47.9)	

Table 2 presents the association between sex and membership in a political organisation using chi-square test. The frequency distribution clearly indicates that a 52 percent of the male are membership in the political organisation while 48 percent of the female are membership in the political organisation. From the observed chi-square value 6.714 and p-value 0.010 which is less than 0.05, hence there is an association between sex and membership in the political organisation.

ASSOCIATION BETWEEN NATIVE PLACE AND TYPE OF MEMBERSHIP

TABLE 3: ASSOCIATION BETWEEN NATIVE PLACE AND TYPE OF MEMBERSHIP

Native place	Type of membership			Chi-Square (p value)
	Youth (n=64) n(%)	Youth president (n=7)	NA (n=49)	
Rural	11 (17.2)	5 (71.4)	15 (30.6)	10.676, p=0.005
Urban	53 (82.8)	2 (28.6)	34 (69.4)	

Table 3 presents the association between native place and type of membership using chi-square test. The frequency distribution clearly indicates that a 71 percent of respondents from rural areas are youth president while 83 percent of respondents from urban areas are youth from the observed chi-square value 10.716 and p-value 0.005 which is less than 0.05, hence there is an association between native place and type of membership.

ASSOCIATION BETWEEN EDUCATION AND TYPE OF MEMBERSHIP

TABLE 4: ASSOCIATION BETWEEN EDUCATION AND TYPE OF MEMBERSHIP

Education	Type of membership			Chi-Square (p value)
	Youth (n=64) n(%)	Youth president (n=7)	NA (n=49)	
+3	60 (93.8)	4 (57.1)	47 (95.9)	13.583, p=0.001
PG	4 (6.2)	3 (42.9)	2 (4.1)	

Table 4 presents the association between education and type of membership using chi-square test. The frequency distribution clearly indicates that a 94 percent of respondents with +3 educations are youth while 43 percent of respondents with PG education are youth president. From the observed chi-square value 13.583 and p-value 0.001 which is less than 0.05, hence there is an association between education and type of membership.

ASSOCIATION BETWEEN PRESENT PLACE OF STAY AND TYPE OF MEMBERSHIP

TABLE 5: ASSOCIATION BETWEEN PRESENT PLACE OF STAY AND TYPE OF MEMBERSHIP

Present place of stay	Type of membership			Chi-Square (p value)
	Youth (n=64) n(%)	Youth president (n=7)	NA (n=49)	
Hostel	12 (18.8)	4 (57.1)	16 (32.7)	6.274, p=0.043
With Parents	52 (81.2)	3 (42.9)	33 (67.3)	

Table 5 presents the association between present place of stay and type of membership using chi-square test. The frequency distribution clearly indicates that a 57 percent of respondents who stay in the hostel are youth president while 81 percent of respondents stays with parents are youth. From the observed chi-square value 6.274 and p-value 0.043 which is less than 0.05, hence there is an association between present place of stay and type of membership.

ASSOCIATION BETWEEN NATIVE PLACE AND YEAR OF MEMBERSHIP

TABLE 6: ASSOCIATION BETWEEN NATIVE PLACE AND YEAR OF MEMBERSHIP

Native place	Year of membership				Chi-Square (p value)
	<=3 (n=11) n(%)	4-6 (n=34)	>=7 (n=26)	NA (n=49)	
Rural	5 (45.5)	10 (29.4)	1 (3.8)	15 (30.6)	9.582, p=0.022
Urban	6 (54.5)	24 (70.6)	25 (96.2)	34 (69.4)	

Table 6 presents the association between native place and year of membership using chi-square test. The frequency distribution clearly indicates that a 46 percent of respondents from rural areas with <=3 year of membership while 96 percent of respondents from urban areas with >=7 year of membership. From the observed chi-square value 9.582 and p-value 0.022 which is less than 0.05, hence there is an association between native place and year of membership.

ASSOCIATION BETWEEN EDUCATION AND YEAR OF MEMBERSHIP

TABLE 7: ASSOCIATION BETWEEN EDUCATION AND YEAR OF MEMBERSHIP

Education	Year of membership				Chi-Square (p value)
	<=3 (n=11) n(%)	4-6 (n=34)	>=7 (n=26)	NA (n=49)	
+3	11 (100.0)	27 (79.4)	26 (100.0)	47 (95.9)	12.221, p=0.007
PG	0 (0.0)	7 (20.6)	0 (0.0)	2 (4.1)	

Table 7 presents the association between Education and year of membership using chi-square test. The frequency distribution clearly indicates that a 100 percent of respondents with +3 education with >=7 year of membership while 21 percent of respondents with PG education with a 4-6 year of membership. From the observed chi-square value 12.221 and p-value 0.007 which is less than 0.05, hence there is an association between Education and year of membership.

TABLE 8: ASSOCIATION BETWEEN PRESENT PLACE OF STAY AND YEAR OF MEMBERSHIP

Present place of stay	Year of membership				Chi-Square (p value)
	<=3 (n=11) n(%)	4-6 (n=34)	>=7 (n=26)	NA (n=49)	
Hostel	4 (36.4)	3 (8.8)	9 (34.6)	16 (32.7)	7.802, p=0.050
With Parents	7 (63.6)	31 (91.2)	17 (65.4)	33 (67.3)	

Table 8 presents the association between present place of stay and year of membership using chi-square test. The frequency distribution clearly indicates that a 36 percent of respondents who stay in a hostel with <=3 year of membership while 91 percent of respondents stays with parents are the 4-6 year of membership. From the observed chi-square value 7.802 and p-value 0.050 which is less than 0.05, hence, there is an association between present place of stay and year of membership.

ASSOCIATION BETWEEN MEMBERSHIP IN POLITICAL ORGANIZATION AND SOCIO-ECONOMIC VARIABLES USING BINARY LOGISTIC REGRESSION

TABLE 9: ASSOCIATION BETWEEN MEMBERSHIP IN POLITICAL ORGANIZATION AND SOCIO-ECONOMIC VARIABLES USING BINARY LOGISTIC REGRESSION

Independent variables	Dependent variables β (SE)		
	Membership in Political Organization		
Sex			
Male	-1.101** (0.432)		
Native place			
Urban	0.669 (0.558)		
Religion			
Hindu	0.837 (1.272)		
Caste			
ST	-0.537 (1.160)		
SC	0.241 (0.987)		
General	-0.355 (0.983)		
Education			
PG	1.970* (0.931)		
Present place of stay			
Hostel	-0.431 (0.515)		
Person motivated			
Yes		1.340* (0.589)	
Party Affiliated to			
Yes			1.489 (1.097)

Table 9 reveals the logistic regression to assess the impact of a number of factors on the likelihood that respondents would report with membership in the political organization. The model contained six independent variables (Sex, Native place, Religion, Caste, Education and Present place of stay). The model as a whole explained between 12% (Cox and Snell R square) and 16% (Nagelkerke R squared) of the variance in membership in the political organisation and correctly classified 73% of cases. In above table 9, two independent variables statistically significant contribution to the model. The strongest predictor of reporting to membership in a political organization with PG education (β=1.970, p=0.034<0.05, OR=7.17). This indicated that respondent whose education with PG were 7.17 times more likely to report membership in the political organisation than with education +3. The negative predictor of reporting membership in the political organisation was male (β=-1.101, p=0.01, OR=0.33). This indicated that respondents who are male were 0.33 times less likely to report membership in the political organisation. The strongest predictor of reporting to membership in a political organisation with person motivated (β=1.340, p=0.023<0.05, OR=3.82). This indicated that respondents who motivated were 3.82 times more likely to report membership in the political organisation.

DISCUSSION AND CONCLUSION

Politicization of student unions is a general phenomenon of our national political culture. However, it suffers from a variety of problems, such as uneven growth, and small size. India's large student population diffused over all parts of the country might at some point play a critical role in national or regional politics. Developing societies impose the student community the incipient elites a unique responsibility which is a concomitant of their unique power. Student political activism must, however, be duly tempered with a sense of responsibility. It is hoped that student protest politics will, in coming years, dispense with its mostly anomic character and transform itself into a constructive instrument to make a worthwhile contribution to India's progress and modernization. In conclusion, this study has examined the student's union leader role, characteristic and their benefits offered to the society and state general with particular focus in Odisha. In this respect, it is a pioneering study; but it does have some limitations, including not being able to reveal the relationship between student characteristics such as political view and ethnic and religious background and their attitude towards student's union. Further, future study should focus on a particular aspect of benefits such as social movement or social justice.

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RELEVANCE OF UNORGANISED RETAILERS AND THEIR PROBLEMS WITH SPECIAL EMPHASIS TO CALICUT CITY

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ABSTRACT

Everybody needs to go to the market in their life. Market is the place where we can buy almost anything for a price. In the market there are mainly two types of retailers competing with each other to sell their products in an organized format of surroundings such as with buildings, furniture and so on. And some other sellers moving their products by informal surroundings. They have no any organized format of framework. They are running their business by sitting in a street or in a public footpath or in a small roof. These kinds of sellers are still common in major big and small cities. Today, vending is an important source of employment for a large number of urban poor as it requires low skills and small financial inputs. Broadly defined, a street vendor is a person who offers good or services for sale to the public without having a permanent built-up structure but with a temporary static structure or mobile stall (or head-load). Street vendors could be stationary and occupy space on the pavements or other public/private areas, or could be mobile, and move from place to place carrying their wares on push carts or in cycles or baskets on their heads, or could sell their wares in moving buses. The Government of India has used the term 'urban vendor' as inclusive of traders and service providers, stationary as well as mobile, and incorporates all other local/region specific terms used to describe them.

KEYWORDS

street vendors, retailing.

INTRODUCTION

We are buying and using variety of products in a day, since we wake up in the morning till going back into the bed. These products are purchased may be from big retail shops or from small shops or from itinerant shop. In India there are 50% of customers are depending on the unorganised sellers for products, And the rest is depending on organised sellers. Mainly the two sectors are concentrated in retail selling. That is why they have a direct relation with customers. Unorganised sector comprises itinerant shops, pavement vendors, mobile vendors, pan/beedi shops, convenience stores etc. retail in India is essentially unorganised.

A UNORGANISED TRADERS

Retailers who move from door to door, selling goods to consumers are called unorganised traders. With no fixed place of business, they deal in vegetables, fruits, fish, cloth, etc. They operate on a small investment and with limited stock. They are different type of unorganised and itinerant traders.

A. HAWKERS AND PEDDLERS

Hawkers carry goods on vehicles, while peddlers on their backs or heads moving from one place to another in residential areas to sell their goods.

B. CHEAP JACKS

They do business in rented shops or sheds, shifting from one locality to another. Cheap jacks sell their goods in temporary sheds during festivals or other celebrating days. Their shops are never permanent.

C. MARKET TRADERS

These traders sell their goods on periodical markets- weekly, monthly, etc. They also occupy fronts of main shops on holidays and thriving business. They move from one market to another.

D. STREET VENDORS

These traders display their goods in busy street corners or pavements near railwaystation, bus stand, cinema houses etc.

WORKING CONDITIONS OF UNORGANISED SELLERS

Unorganised sellers have poor social protection and their working conditions mainly on the streets and public spots expose them to a variety of safety and health issues. The SNTD-ILO study on Mumbai found that around 85 percent of the street vendors complained of street related disease – migrane, hyper acidity, hyper tension and high blood pressure. In general, there are more men vendors than women vendors in India. Women vendors earn less, on average, than men vendors: their earnings range from 40 to 60 rupees per day. The lack of toilets has an adverse effect on women's health and many suffer from urinary tract infections and kidney ailments. The mobile women street vendors also face security issues.

REASONS FOR INCREASE IN UNORGANISED SELLERS

1. The low skilled migrants seeking employment in the cities, hawking and street selling is a means of earning their livelihood. In this way a section of the urban poor is absorbed into gainful employment.
2. The second reason for the increase in hawkers is due to the increase in the urban poor. These people are able to procure their basic necessities mainly through hawkers, as the goods sold are cheap.

REVIEW OF LITERATURE

According to the study of KAVITHA and ROHIT that the traditional retailers are not very much clear about the consequences of the modern retailing. Modern organised retailing will cut the profit margin of the poor retailers. The status of employment is much better than that in organised retail.

According to the Mathew Joseph that unorganised retailers experienced a decline in their volume of business and profit after the entry of organised retailers.

According to the analysis of MR. ALEX PAUL, most of the customers would like to buy from poor retail sellers in the city. Customers think that it is the best way to get fairly good products for reasonable price. For example, the survey of consumers in Mumbai showed that the most of them bought goods from hawkers near the railway stations as these places were very convenient for those going to work or returning home from work. And also he finds a wondering element that small sellers earn a large amount of profit even without any powerful sales promotion techniques.

OBJECTIVES OF THE STUDY

1. To analyze their different sales promotion techniques.
2. To check whether the mall culture affected them or not
3. To measure the degree of impact of organised sector on the unorganised sector.
4. To understand the problems and threats faced by unorganised sector.

RESEARCH METHODOLOGY

Primary data were collected by conducting a personal interview using a schedule of questions. Secondary data collected mainly from internet, textbook and various magazines.

- Convenient sampling method is used as a sampling method for the study.
- Questionnaire based survey of unorganised retailers including fixed fruit and vegetable vendors and pushcart, hawkers.
- Questionnaire-based exit survey of consumers' shopping at organised retail outlets and also consumers' shopping at unorganised outlets in Calicut city.

LIMITATIONS OF THE STUDY

- Information got from various sources may not be reliable.
- Error in sampling method may occurred.

DATA ANALYSIS AND INTERPRETATION**TABLE NO. 1: PROBLEMS MAINLY FACED BY THEM AS A SMALL SELLER**

OPTIONS	NO. OF RESPONDENTS	PERCENTAGE
Lack of fixed place	20	20%
Shortage of capital	40	40%
Unfavourable policy of law and government	30	30%
Threat from giant corporates	10	10%
Total	100	100

Interpretation: Every small seller like street vendors, hawkers, pavement sellers etc. Struggling with a lot of problems. Out of them I asked about some general problems faced by these poor sellers. Most of the sellers (40%) suffering with the limitation of required fund. And 30% of them disagree with the policy of law, police, and government. Only 20% of people suffering for a fixed place. And the rest (10%) is threatening the emergence of giant supermarkets and malls.

FINDINGS

- Most of the unorganised poor sellers are suffering with various problems like shortage of capital, non-availability of a fixed place to sell their products. And also government and police always harassing them in the name of public nuisance and encroachment.
- They would like to expand their business, but no any encouragement from the government. In some cities like Mumbai, Bangalore, Delhi, government initiated to rehabilitate them. The local government in the Calicut also should follow this policy.
- Unorganised retailers in the vicinity of organised retailers experiences a small decline in their volume of business and profit after the entry of large organised retailers.
- Majority of the organised sellers expressed a unique view on poor sellers that the government should eliminate from the public spots. But at the same time some big sellers expressed that it does not matter threat in big selling concern because of we sell quality of products.
- Major portion of the customers would like to purchase goods from the unorganised sellers because of the easy location, convenience, low price, etc. But they find status and proud in shopping from big retail malls and branded showrooms.
- Whoever the seller, the customers always want quality products at reasonable prices.
- Unorganised retailers have significant competitive strengths that include Consumer goodwill, credit sales, amenability to bargaining, ability to sell loose items, convenient timings, and home delivery.

SUGGESTIONS

1. Ensure better credit availability to unorganised retailers from banks and micro credit institutions through innovative banking solutions.
2. The government must take an instant remedial action for the better functioning of unorganised sellers. Government should reserve certain percentage of land in the cities for the running of unorganised entity as per the national policy laid-down.
3. Simplification of the licensing and permit regime for organised retail and move towards a nationwide uniform licensing regime in the states to facilitate modern retail.
4. Establishment of retailer co-operatives among unorganised retailers which is highly required for the sustenance of the unorganised retail sector.
5. there must be good network connection between retail organisation, the suppliers and other channel members to use compatible technology so that they can build strong distribution set up to satisfy the customers.
6. People should not attract towards the facilities provided by the organised stores. sometimes the organised stores charges high price. So consumer should be aware and they should have attention towards the quality of products whether it is whose products

CONCLUSION

By comparing with the other countries India is the only one country having large portion of unorganised retail out of its total retail sector. In India the unorganised retail is a source of food and other necessities of millions of Indians. It acts like a convenience store for the customer offering right product at right time at right place. In a country with large number of people, and high levels of poverty, this model of democracy is the most appropriate.

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