"Ya Devi Stuyate Nityam Vibhuhairvedaparagaih Same Vasatu Jihvagre Brahmarupa Saraswati"

Saraswati, the goddess of knowledge, is praised by the intelligent who have mastered the Shastra (scriptures). She is the wife of the Creator. May she live on my tongue.

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The Power of Humility

Why do people want power? Because whatever they are doing is not respected. A shoemaker is not respected like the president of a country. In reality, he may be better as a shoemaker than the president is as a president. Abraham Lincoln's father was a shoemaker and Lincoln became the US president.

The first speech that Lincoln delivered on the inauguration of his first term was interrupted right at the beginning. A man stood up and showing his shoes said, "Mr. Lincoln, you have become the president by accident. But never forget that your father was a shoemaker. In fact, in my family, your father used to come to make shoes for everybody. The shoes I am showing you were made by your father."

The whole Senate laughed. They thought they had humiliated Lincoln. But with tears in his eyes, Lincoln said, "I am immensely grateful to you for reminding me of my father. He was a perfect shoemaker, and I know I cannot be that perfect a president. I cannot beat him. I will try my best to at least reach close to his greatness. As for your family and the shoes my father has made, I can inform the whole Senate that there may be other aristocratic families that my father used to make shoes for. He has taught me a little bit of the art of shoemaking too. If his shoes are not working well, if they pinch you, if they are too tight, or too loose, I can always mend them. Of course, it will not be the same as my father, but he is dead."

Corporate Restructuring & Acquiring Firms' Performance : An Empirical study of few Selected Firms of Oil & Gas Sector in India

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Abstract

The corporate sector in India is undergoing structural changes as a result of liberalization, privatization and openness policies of the Government since early 1990s. Competitive pressures are high not only due to deregulation but also due to globalization. Restructuring in the context of corporate management could be seen as the act of reorganizing the legal, ownership, operational or other structures of a company. It is usually done for the purpose of making such companies more profitable or better organized to meet their present realities and challenges. Restructuring may include a change of ownership or ownership structure, demerger or a response to a crisis or major change in the business such as bankruptcy, repositioning or buyout. Along with the rise in the number of Merger and Acquisition (M&A) deals, the amount involved in such deals has risen over time. There is also an increase in the number of open offers, albeit at a slower pace. With rising global energy demand, the oil and gas industry has a wide range of challenges and opportunities across the upstream, midstream, downstream and oilfield services sectors. This paper discusses the corporate restructuring strategy and financial performance of the four selected firms in the oil and gas industry. The study has been based on secondary data collected about acquiring firms five years during pre merger and five years during post merger period excluding the year of merger/acquisition.

Keywords: Corporate Restructuring, Mergers and Acquisitions

1. Introduction :

Corporate restructuring generally refers to the process of redesigning one or more aspects of a company. It entails any fundamental change in a company's business or financial structure. It is designed to increase the company's value to shareholders or creditors. Norley et al. (2001) define restructuring as the act of reorganizing the legal, ownership, operational or other structures of a company for the purpose of making it more profitable and better organized for its present needs. Alternate reasons for restructuring include a change of ownership or ownership structure, demerger, a response to a crisis or major change in the business such as bankruptcy, repositioning or buyout.

2. Review of Literature :

Bowman & Singh (1999) state that organizational restructuring strategies consist of three modes; portfolio, financial and organizational restructuring. There are symptoms that may indicate the need for organizational restructuring (Hane, 2000). Such symptoms include: parts of the organization are significantly over or under staffed; organizational communications are inconsistent, fragmented, and inefficient; technology and/or innovation are creating changes in workflow and production processes; significant staffing increases or decreases are contemplated; new skills and capabilities are needed to meet current or expected operational requirements; accountability for results are not clearly communicated and measurable resulting in subjective and biased performance appraisals; personnel retention and turnover becomes a significant problem; stagnant workforce productivity or deteriorating morale.

Drogalas (2006) stated that one of the main elements of contemporary corporate restructuring is the boom in mergers and acquisitions. Mergers and Acquisitions are used for improving competitiveness of companies and gaining competitive advantage over other firms through gaining greater market share, broadening the portfolio to reduce business risk, entering new markets and geographies, and capitalizing on economies of scale etc (Saboo and Gopi, 2009). Merger and Acquisition (M & A) agreement is taken not necessarily because of lack of corporate strength but an avenue to create synergy. Many corporations find that the best way to get ahead is to expand ownership boundaries through mergers and acquisitions (Ismail, Abdou and Annis, 2011).

According to Cascio (2002), debt restructuring also qualifies as financial restructuring. This process allows a private or public company facing cash flow problems and financial distress to reduce and renegotiate its delinquent debts in order to improve or restore liquidity and rehabilitate so that it can continue its operations. Cascio (2002) contends that the investment pattern of a company which relates to ability of corporations to identify the various investments opportunities that would lead to higher returns is part of the restructuring procedure. Financial restructuring may be accomplished with the motive to enhance liquidity, lower the cost of capital, reduce risk, avoid loss of control, and improve shareholder value, among many other reasons (Cascio, 2002).

The oil and gas sector is among the six core industries in India and plays a major role in influencing decision making for all the other important sections of the economy. In 1997–98, the New Exploration Licensing Policy (NELP) was envisaged to fill the ever-increasing gap between India's gas demand and supply. A recent report points out that the Indian oil and gas industry is anticipated to be worth US$ 139.8 billion by 2015. India's economic growth is closely related to energy demand; therefore the need for oil and gas is projected to grow more, thereby making the sector quite conducive for investment. The Government of India has adopted several policies to fulfil the increasing demand. The government has allowed 100 per cent foreign direct investment (FDI) in many segments of the sector, including natural gas, petroleum products, and refineries, among others. Today, it attracts both domestic and foreign investment, as attested by the presence of Reliance Industries Ltd (RIL) and Cairn India.

3. Market Size :

Backed by new oil fields, domestic oil output is anticipated to grow to 1 MBPD by FY16. With India developing gas-fired power stations, consumption is up more than 160 per cent since 1995. Gas consumption is likely to expand at a CAGR of 21 per cent during FY08–17. Presently, domestic production accounts for more than three-quarters of the country's total gas consumption.

India increasingly relies on imported LNG; the country was the fifth-largest LNG importer in 2013, accounting for 5.5 per cent of global imports. India's LNG imports are forecasted to increase at a CAGR of 33 per cent during 2012–17. However, net imports of Natural Gas fell from 13.14 BCM in 2012-13 to 13.03 BCM in 2013-14.

State-owned Oil and Natural Gas Corporation (ONGC) dominates the upstream segment (exploration and production), accounting for approximately 68 per cent of the country's total oil output (FY14). Indian Oil Corporation Limited (IOCL) operates 11,214 km network of crude, gas and product pipelines, with a capacity of 1.6 MBPD of oil and 10 million metric standard cubic metre per day (MMSCMD) of gas. This is around 30 per cent of the nation's total pipeline network. IOCL is the largest company, operating 10 out of 22 Indian refineries, with a combined capacity of 1.3 MBPD

4. Objectives :

The broad objective of this study is to measure the impact of mergers and acquisitions on financial growth indicators in Indian Oil and Gas Sector. Other objectives of the study are :

a) To examine and evaluate the impact of mergers and acquisitions on the sufficiency and efficiency position;

b) To examine and evaluate the impact of mergers and acquisitions on the liquidity and leverage position;

c) To examine and evaluate the impact of mergers and acquisitions on the profitability position.

These objectives have been resolved through various methodological aspects, including quantitative methods of analysis.

5. Hypotheses :

Based on the above objectives, the following hypotheses have been identified for the study:

a) H_1: There is significant differences in sufficiency (adequacy of cash flow for meeting the firm's needs) of firms, before and after merger and acquisition.

b) H2: There is significant differences in efficiency (internal uses of assets and liabilities) of firms, before and after merger and acquisition.

c) H3: There is significant differences in liquidity position of firms, before and after merger and acquisition.

d) H_4: There issignificant difference in leverage of firms, before and after merger and acquisition.

e) H_5: There is significant difference in overall profitability of firms, before and after merger and acquisition.

6. Methodology :

This study is based on secondary data. The oil and gas sector in India has been instrumental in fuelling the growth of the Indian economy, hence presenting a significant opportunity for investors in the years to come. The government have also been doing its bit in recent times to deregulate the industry and encourage greater foreign participation. India is the world's fifth biggest energy consumer and continues to grow rapidly. The oil and gas sector is dominated by state consumer and continues to grow rapidly. It controlled enterprises with ONGC the third-biggest global coal producer, but largest upstream-oriented oil company has limited its supplies of oil.

Four firms have been selected which have acquired other units. This selection of firms is based on availability of

information and importance of the firm. The company's website and annual reports have been referred to. The data source "**ISI Emerging Markets**" is the main source from which relevant information have been collected. The profiles of both acquiring and acquired firms at the time of merger/acquisition have been collected from annual reports, newspaper clippings, websites, etc.

Data have been collected about the acquiring firms five years during pre-merger period and five years during post-merger period excluding the year of merger/acquisition. Therefore, a total of ten years of data have been collected.

The ratio analysis method has been used. Ratio analysis is a process of identifying the financial strengths and weaknesses of the firms. Therefore, data relating to financial performance for five years during pre-merger period and five years during pos-merger have been analyzed. The variables (ratios) that have been selected to measure the financial performance of the acquiring firms are Sufficiency, Efficiency, Liquidity, Leverage, Activity and Profitability ratios. The test of significance ('t') has also been applied to infer the differences between pre and post-merger period.

7. Brief Profile of the firms taken for study :

The list of acquiring and acquired firms has been mentioned below :

Table-1 : List of Acquiring and Acquired firms

Sl. No.	Acquiring Firm	Acquired Firm	Country of Operation	Month/ Year of Acquisition
1.	ONGC	Imperial Energy	Russia	March, 2009
2.	IOCL	BRPL	India	March, 2009
3.	Essar Oil	Kenya Petroleum Refineries Ltd.	Kenya	July, 2009
4.	GAIL	NATGAS	Egypt	August,2004

7.1 ONGC acquiring Imperial Energy

The Imperial Group was acquired by ONGC Videsh Limited (OVL), the overseas arm of Oil and Natural Gas Corporation (ONGC), the flagship national oil company of India on January 13, 2009 Imperial was delisted from LSE.

Imperial Energy Group had started its operations in the territory of the Russian Federation since October 18, 2004. The Group was founded by Russian and foreign investors as an independent middle-size oil producer. Imperial Energy was a company of international level. In 2004, Imperial Energy listed its shares on London's AIM exchange, then moved to the main LSE market in May 2007 and became a constituent of the FTSE 250 Index.

In 2004-07, Imperial Energy purchased the licenses for the underdeveloped and poorly developed blocks in Tomsk region and Qostanay (Kazakhstan) and conducted to vast program of exploration works on them, which led to new fields discoveries in Tomsk region. In 2006, Imperial Energy established its own drilling company, RUS-IMPERIAL Group (RIG) which operated three heavy duty drilling rigs, three work over rigs and a coiled tubing unit.

ONGC is one of the largest oil and gas companies not only in India, but in the world. As per Platt 250 Global Energy company List for 2013, ONGC ranked 3rd E&P company in the world and 22nd among leading global energy majors. As per Forbes Global 2002 list ONGC occupied 155th rank among the leading world companies. The company operates in the foreign market through its subsidiary ONGC Videsh Ltd. (OVL).

7.2 IOCL acquiring BRPL

Indian Oil Corporation Ltd. (IOCL) acquired 74.46 per cent stake in Bongaigaon Refinery & Petrochemicals Ltd. (BRPL) on March 26, 2009. The Ministry of Corporate Affairs, Govt. of India approved the merger of govt. companies and sanctioned the scheme of amalgamation for merger of Bongaigaon Refinery & Petrochemicals Ltd. (subsidiary of Indian Oil) with Indian Oil Corporation Ltd. under section 391(2) read with section 394 of the Companies Art, 1956. The scheme of amalgamation periods for a swap ratio of 4:37, i.e. 4 equity shares of Rs. 10/- each of Indian Oil (the transferee company) as finally paid for every 37 equity shares of Rs. 10/- each of Bongaigaon Refinery & Petrochemicals Ltd. (the transferred company). BRPL owned 2.35 million tonnes per annum refinery in Assam and petrochemical units.

7.3 Essar Oil Ltd. acquiring Kenya Petroleum Refineries Ltd. (KPRL)

Essar Energy Overseas Ltd. acquired 50 per cent stake from Shell and Chevron in Kenya Petroleum Refineries Ltd. on July 31, 2009. The Kenya Petroleum Refineries Ltd. serves the East Africa region in the supply of a range of oil products including liquified petroleum gas, unleaded premium gasoline, regular petrol, automotive gas oil, industrial diesel, fuel oil, and special products like bitumen and grease. KPRL had two refinery complexes with distillation, hydro treating,

catalytic reforming, and bitumen production units. Crude oil from the middle east is transported by sea to Kipevu Oil Jetty in Kilindini Harbour and then carried by pipeline to the refinery. The finished products are also transferred to customers by pipeline.

Essar Energy is a fully integrated oil and gas company of international scale with strong presence across the hydrocarbon value chain from exploration and production to oil retail. It has a portfolio of onshore and offshore oil and gas blocks worldwide.

With this acquisition, Essar was expected to play a major and vital role in the African oil and gas markets. KPRL's products are sold in the Kenyan market and are exported to neighbouring countries including Tanzania, Uganda, Burundi and Rwanda. "The entry of Essar is a major milestone that will allow KPRL, with the support of the two shareholders (Gox and Essar) to embark on the path of modernization and growth as it seeks to meet the national and regional demand for petroleum products," said the then General Manager, KPRL.

7.4 GAIL acquiring NATGAS

Gas Authority of India Ltd. (India) Limited signed an agreement on 17 August, 2004 with Egypt Kuwait Holding, Egypt to acquire a participating interest in National Gas Company (NATGAS) of Egypt. The agreement was signed by the Director, GAIL (India), and the Managing Director, Egypt Kuwait Holding Company, in New Delhi in the presence of Egyptian embassy officials. Under this agreement, "GAIL will acquire a 15 per cent participating interest in NATGAS at a price of US $19 million". NATGAS was the largest private local distribution company (LDC) for natural gas in Egypt with participating interests by Egypt Kuwait Holding, Shell Gas B.V., Petrogas, Jaicorp, and GAIL (India) Limited. Commenting on the agreement, Mr Proshanto Banerjee, the then Chairman and Managing Director, GAIL said, "GAIL made an investment of US $22 million in Egypt, which is the largest investment made by GAIL in any country till date. Egypt is a focus country for GAIL and we hope that this partnership shall also help grow other business areas in Egypt and its neighboring countries". Speaking at the signing, Mr. Moataz Al Alfi, the then Managing Director, Egypt Kuwait Holding Company said, "Egypt and India have had strong historic ties. The teams from GAIL and Egypt Kuwait Holding deserve to be complimented for inking this agreement. We look forward to a lasting partnership with GAIL". As part of its globalization plans, GAIL is also looking at other African and West Asian countries and is keen to associate with Egypt Kuwait Holding and other players in cross-country gas pipeline projects in countries like Jordan and Lebanon. GAIL is currently pursuing globalization opportunities in Iran, Myanmar, Bangladesh, Turkey and the Philippines.

8. Data Analysis :

The tables below show the financial performance of the four firms taken for study in the pre and post merger period. The 't' test has been used to test the significance of the ratios:

Table- 2 : Financial Performance of Oil &Natural Gas Corporation

Leverage Ratios				
Total Debt Ratio	0.06	0.07	-0.324	0.762
Debt-Equity Ratio	33.67	10.18	1.397	0.235
Capital Equity Ratio	1.06	0.87	0.913	0.413
Interest Coverage	107.52	91.44	0.112	0.916
Activity Ratios				
Inventory Turnover	13.50	9.99	1.397	0.235
No.of days Inventory	26.74	23.18	0.590	0.587
Debtors Turnover	14.87	9.88	2.045	0.110
Collection period	24.48	23.59	0.133	0.901
Assets Turnover	1.14	0.76	1.681	0.168
Working Capital Turnover	3.83	9.29	-1.449	0.221
Profitability Ratios				
Net Margin	0.22	0.15	0.082	0.082
PAT to EBIT	0.64	0.52	0.905	0.417
Return on Investments (ROI) before tax	0.39	0.21	2.877	0.045
Return on Investments (ROI) after tax	0.25	0.14	2.771	0.050*
Return on Equity	0.27	0.15	2.947	0.042
EPS	82.17	27.54	6.360	0.008*
DPS	344.00	222.50	2.316	0.082
Payout	4.26	6.77	1.647	0.198

* Significant at 95% confidence interval

Variables	Pre Merger Average	Post Merger Average	't' Value	Sig Value (2 tailed)
Sufficiency Ratios				
Cash Flow Adequacy	0.53	0.20	0.476	0.659
Long Term Debt Payment	1.85	-5.03	0.687	0.530
Dividend Payout	0.55	-0.72	0.212	0.843
Reinvestment	-0.28	-0.88	0.635	0.560
Debt Coverage	10.68	-21.49	0.577	0.595
Depreciation Impact	-0.86	-1.52	0.483	0.654

Table 2 shows a comparison of pre and post-merger averages. As per the table, the sufficiency ratios have decreased in the post-merger period. The cash flow adequacy(t=2.082), dividend payout and depreciation-amortization ratios have decreased in the post-merger period, but the change is not significant. Dividend payout decreased to 0.17 in the post-merger period. As far as efficiency ratios are concerned, the average of post merger efficiency ratios has also decreased, but it is statistically insignificant.

The liquidity ratios (t = 5.516 and 5.679) have decreased post merger and is statistically significant. A low liquidity ratio means the firm has inadequacy of working capital to fund short term financial requirement. The debt equity and interest coverage ratio has decreased post merger to 10.18 and 91.44 however, it is statistically insignificant at 95 per cent significance level. ONGC's activity ratios have decreased in the post merger period.

There is no significant change in the activity ratios though the averages of the ratios have decreased marginally. Profitability ratios have decreased post merger. There has been a sharp decrease in the average DPS (t = 2.316) post merger and it is marginally significant. There has been a significant change in return on investment (t=2.877), return on equity(t=2.947) and EPS (t=6.360) 95% level of significance due to the decrease in the averages.

Table-3 : Financial Performance of Indian Oil Corporation Ltd.

* Significant at 95% confidence interval

From the above table, it is found that there is no significant change in the sufficiency ratios. It is evident that the cash flow adequacy (t=0.476), dividend payout and reinvestment ratios have decreased post merger but do not shows any significant changes post merger. Cash flow adequacy declined to 0.20, dividend payout declined to -0.72 and reinvestment ratios declined to -0.88 during the post merger period. As far as efficiency ratios are concerned, the average of post merger efficiency ratios has also decreased, but it is statistically insignificant.

The current ratio (t=5.947) has decreased post merger and is statistically significant. A low liquidity ratio means the firm has inadequacy of working capital to fund short term financial requirements. The interest coverage (t=5.911) ratio has decreased post merger and is statistically significant.

There is no significant change in the company's activity ratios. Statistically, there seems to be no change in the ratios post mergeraverage due to the marginal increase/ decrease of Inventory and Debtor's Turnover. Inventory and Debtor's turnover increased to 6.43 and 39.72 respectively. Overall, for Indian Oil Corporation, the profitability ratios have decreased post acquisition of Bongalgaon Refinery and Petrochemicals Ltd (BRPL). The net margin (t=4.472), return on investment (t=3.294 and 3.086), return on equity(t= 5.129), DPS (t=2.326) and payout (t=2.944) have decreased and there is a significant change for the same.

Table-4 : Financial Performance of Essar Oil Ltd.

Variables	Pre Merger Average	Post Merger Average	't' Value	Sig Value (2 tailed)
Profitability Ratios				
Net Margin	0.05	0.00	1.052	0.352
Ratio EBIT	0.69	-2.57	1.197	0.297
Return on Investments (ROI) before tax	0.00	0.03	-1.502	0.208
Cash Flow Adequacy	0.00	0.06	-2.860	0.046*
Long Term Debt Payment	10.60	4.64	0.729	0.506
Return on Investments (ROI) after tax	0.00	-0.02	0.875	0.431
Dividend Payout	0.00	0.00	1.000	0.374
Reinvestment	1.02	-1.87	0.342	0.749
Return On Equity	0.04	-0.31	0.352	0.248
Debt Coverage	0.20	-3.24	0.972	0.403
EPS	0.20	-6.14	0.739	0.496
Depreciation-Amortization Impact	0.00	0.00	0.000	0.000*
DPS	0.07	0.14	-0.138	0.897
Payout	0.00	0.00	0.000	0.000*
Efficiency Ratios				
Cash flow to Sales	-0.03	0.01	-0.427	0.691
Operations Index	2.35	5.65	-0.685	0.531
Cash flow return on assets	0.00	0.02	-1.986	0.118
Liquidity Ratios				
Current Ratio	0.87	0.68	0.771	0.484
Quick Ratio	0.55	0.35	1.587	0.188
Leverage Ratios				
Total Debt Ratio	0.74	0.65	0.537	0.620
Debt-Equity Ratio	0.36	0.21	1.765	0.152
Capital Equity Ratio	3.88	7.27	-0.917	0.411
Interest Coverage	-0.50	1.30	-0.798	0.470
Activity Ratios				

*Significant at 95% confidence interval

Table 4 shows pre and post merger average ratios post the company's acquisition of Kenya Petroleum Refinery Ltd. From the table, it is known that the cash flow adequacy and long term debt payment ratios have increased in the post merger period, but it is statistically insignificant. Cash flow adequacy has increased from 0.00 to 0.03, whereas long term debt payment increased from -10.60 to 4.64 in the post merger period. The average of post merger efficiency ratios has increased, but it is statistically insignificant.

The liquidity ratios have decreased post merger and is statistically insignificant. Leverage ratios of Essar Oil do not show any significant changes post merger. The marginal increase/decrease doesn't have any significant impact on the post merger leverage ratios. There are significant changes in the Debtor's (t=-2.923) and Assets turnover (t=-3.545) for the company.

Activity ratios are used to evaluate the efficiency with which the firm manages and utilises its assets. There is marginal increase in the ratios. Return on Investment before tax (t=-2.860) shows a significant change because of the increase in its average post merger. It increased from 0.00 to 0.06 over the ten year time period. Return on Equity and EPS have decreased but they aren't statistically significant. Return on Equity and EPS declined to -0.31 to -3.24 respectively.

Table-5 :Financial Performance of Gas Authority of India Ltd.

* Significant at 95% confidence interval

Table 5 shows the pre and post merger average ratios of GAIL. From the table, it is clear that the cash flow adequacy ratio (t =0.735) has decreased in the post merger period. There is an increase in the long term debt payment, reinvestment and debt payment ratio, but it is not statistically significant. The cash flow to sales (t=2.408) and operations index (t=2.492) ratio have decreased post merger and it is marginally significant. There is an increase in the cash flow return on assets (t=2.492) in the post merger period. Statistically, the increase is said to be significant at 95% level of significance.

The liquidity ratios have increased post merger, but it is statistically insignificant. Current and quick ratio increased from 1.56 and 1.42 to 1.62 and 1.52 respectively. A firm should ensure that it does not suffer from lack of liquidity, nor does it have excess liquidity. Leverage ratios of the company do not have any significant change statistically.

The interest coverage ratio has increased post merger but it is statistically insignificant. There is significant change in the inventory turnover (t=-2.978) post merger as the average has increased. Due to the decrease in assets turnover (t=3.210) and working capital turnover (2.491) in the post merger period, there is significant change of the same. There is a decline in the average of return on investment (t=2.654) and return on equity (t=4.890) and the change is statistically significant. There has been a significant change in Earning per share (t=-3.918) and Dividend per share (t=-3.658) as the post merger average has increased. Payout (t=-2.457) is marginally significant due to the post-merger increase.

Profitability Ratios			
Net Margin	0.21	0.001	1.000
PAT to EBIT	0.81	-2.059	0.109
Return on Investments (ROI) before tax	0.33	4.686	0.010*
Return on Investments (ROI) after tax	0.28	2.654	0.057
Return on Equity	0.38	4.890	0.008*
EPS	19.15	3.918	0.017*
DPS	4.36	3.658	0.022*
Payout	0.22	2.457	0.070

9. Conclusion :

The present study is analytical in nature. It focuses on the trends in pre and post merger financial performance. The firms under oil & gas industry did not exhibit encouraging performance after acquisition. All four firms registered negative growth in cash flow adequacy and cash flow to sales. Essar Oil's performance was not impressive in cash flow adequacy and cash flow to sales, but it was highly satisfactory in case of ROI after tax (472%), return on equity (2639.5%) and EPS (1519%).ONGC's performance declined on all fronts after merger, whereas GAIL registered an increase in case of current ratio (4.4%), profitability (net margin 0.34%), EPS (46.6%) and DPS (95%). In case of other variables, the performance declined.

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Financial Evaluation of Firms Using Economic Value Added as a Performance Measure – A Comparative Study

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Abstract

If business firms have to be viewed as economic entities, then their returns too must be measured in economic terms. Traditional financial statements and performance measures do not represent the proper value created by a firm. Economic Value Added (EVA) is a measure that represents the true value added by a firm by taking into account the impact of cost of capital on earnings.

Even though EVA is a powerful measure, there are no studies to understand whether firms which have adopted EVA perform better than similar firmss which have not adopted EVA in the Indian context. Using 10 years financial data of a sample of 42 firms (21 EVA and non-EVA firms each), the current study is a comparative analysis of the financial performance of EVA and non-EVA firms.

The results of the study show that EVA firms perform significantly better than non-EVA firms on certain financial parameters on a case by case basis. However, on a consolidated basis, EVA firms do not perform significantly better than non-EVA firms especially in terms of profitability. The paper thus concludes that EVA is not seen as a serious driver of profitability in the Indian context.

Keywords: Economic value added; Financial performance; Du-Pont analysis

1. Introduction:

Contemporary economic conditions are very demanding on business firms. While investors are concerned about the earnings of the firm, accounting earnings alone do not depict the true value created by them. If business organizations are to be viewed as economic entities, then earnings too should be measured in economic terms. By ignoring cost of capital, accounting profits reveal only part of the value created by firms.

The search for an ideal performance measure – a measure that would take into account costs of all sources of capital and hence capture the correct value generated led to the formulation of "Economic Value Added" (EVA) as a performance measure. Peter Drucker, the renowned management expert stated in this regard, "EVA is based upon something we have known for a long time: What we call profits, the money left to service equity, is usually not profit at all. Until a business returns a profit that is greater than its cost of capital, it operates at a loss. Never mind that it pays taxes as if it had a genuine profit. The enterprise still returns less to the economy than it devours in resources. Until then it does not create wealth; it destroys it" (Drucker, 2006).

The US-based consulting firm Stern Stewart and Company originated the concept of EVA. Many renowned companies around the world like Coca Cola Co., Briggs and Stratton, Quaker Oats Co. have adopted EVA. In India, companies like Godrej Consumer Products Limited, Tata Consultancy Services, and Marico have used EVA as a performance measure. Several reputed firms including Infosys, Piramal Health, Hero Motors report their EVA as a part of their investor relations.

2. The Calculation of EVA:

EVA is calculated using the following formula:

EVA = Net Operating Profit after Tax (NOPAT) – (Cost of Capital * Invested Capital)

Where,

NOPAT = Profit after Tax + Post-tax Interest

Invested capital = Book value of capital employed in the business

Cost of Capital = Weighted Average Cost of Capital on the date of Balance Sheet

Several adjustments have been suggested to the calculation of EVA and Stewart lists as many as 164 adjustments depending on the industry to which the firm belongs to arrive at the EVA. The primary objective of the adjustments is to produce an EVA figure that is closer to cash flows, and therefore less subject to the distortions of accrual accounting (Young, 1999). Some of these adjustments include:

- Bringing back investments in intangibles that are often written-off in accounting
- Writing back of amortized goodwill
- Bringing off-Balance Sheet items into consideration
- Correcting the biases arising due to depreciation
- Adjusting for Last In First Out (LIFO) reserves
- Provisioning for warranties and debts
- Adjusting for deferred taxes.

Though the number of adjustments originally proposed by Stewart looks large, it has been observed that EVA adopters do not make more than fifteen adjustments while calculating EVA (Worthington and West, 2001).

3. Review of Literature

Several studies have highlighted the usage and benefits of EVA for performance management (Brewer, Chandra and Hock, 1999; Burkette and Hedley, 1997). Research on EVA has mainly spanned two areas – adoption and impact.

Mclaren (2003) analysed EVA through a study conducted on three firms in New Zealand who have adopted EVA. The study showed that, even after adoption, EVA had not replaced the traditional measures of performance nor had resolved the issues of conflicts of interest. Mittal, Sinha and Singh (2008)discussed the adoption of EVA in Godrej Consumer Products Limited. In the adoption process, the EVAs of the various businesses were measured and targets were set for three years. It was found that the employees had a lot of apprehensions about the new concept yet they implemented it successfully. Prusty (2013) looked at EVA from a corporate governance point of view and observed that adoption of EVA improved the quality of governance of the firm as it directed the firm's activities towards value creation.

Studies have been done to understand the financial impact of adopting EVA. While some studies show the positive financial impact of EVA, some point to the contrary. Bell (2004) analysed the financial impact of EVA adoption and observed that operating performance witnessed a strong improvement in the post-adoption period. Firms adopting EVA increased their annual RoA by 2.68 per cent when compared to firms not using EVA whose RoA declined by 0.58 per cent during the period of study. Firms adopting EVA outperformed the market by 25.66 per cent in three years post-adoption during which non-adopters underperformed by 21.10 per cent . Hamilton, Rahman and Lee (2009) observed the impact of EVA adoption on the performance of firms over a long-term horizon and found that EVA adopters showed a lesser negative performance compared to the non-adopting peer group. Firms using EVA further showed higher growth in their earnings and higher returns. Studies have been conducted to understand the impact of EVA on market value. Chen and Dodd (1997) compared the informational use of EVA with that operating income and showed that EVA is superior to accounting profit in explaining stock returns. Misra and Kanwal (2007) studied whether the stock prices reflect EVA. The study studied the relationship between EVA absolute, EVA percentage, EPS, RoNW, RoCE, RoTA and NOPAT and the dependent variable MVA. The results showed that EVA percentage was the most significant determinant of MVA, better than the traditional measures of performance. Nagar (2007) attempted to find the relationship of RoNW and EVA on MVA and found that while RoNW explains about 35 per cents of change in MVA and EVA explains about 29 per cent of the change. Other measures like EPS, DPS and cash flow from operations were found to have an insignificant relationship with MVA.

However, there are several studies which show that EVA usage has no significant financial impact. Tortella and Brusco (2000) studied the reaction of the market to the implementation of EVA. The study found that the EVA adoption does not provide significant abnormal returns – that is, the market does not react to the news of adoption. Biddle, Bowen and Wallace (1997) tested whether EVA is more correlated to stock returns than earnings computed in the conventional manner. The results showed that conventional earnings are more associated with market returns (r^2 of 12.8 per cent) than residual income (r^2 of 7.3 per cent) and EVA (r^2 of 2.8 per cent). The test suggested that EVA adds only a marginal informational utility over and above conventional earnings. Eljelly and Alghurair (2001) studied the relationship between the various performance measures and shareholder wealth. The performance measures used were EPS, ROE, and EVA. The results indicated that MVA and stock returns are correlated with the traditional measures and not with EVA. Among the traditional measures, EPS is observed to be the strongest in terms of its relationship with stock returns and MVA.

Finally there are research studies of adoption of EVA on individual performance and compensation. Riceman, Cahan and Lal (2002) studied the impact of EVA on performance of individual managers. The findings showed that managers under the EVA bonus schemes perform better than managers under traditional bonus plans. The study observed that the better performance resulted from a consistent evaluation and reward mechanism. Fatemi, Desai and Katz (2003) studied the relationship between executive compensation and EVA and MVA. The results showed a significant relationship between change in MVA and executive compensation. However, the relationships between compensation and RoE and EVA were found to be weak.

An analysis of the above studies shows that a study of the financial impact of EVA adoption on Indian firms through a comparison of similar firms not adopting EVA is yet to be done. The current study is an attempt to fill this research gap.

4. Method of study:

Objective: The objective of the study is to compare the financial performance of firms using EVA with similar firms not using EVA and understand whether EVA firms perform better than non-EVA firms.

Hypotheses: The null hypothesis of the study is that there is no significant difference in the financial performance of firms using EVA and those not using EVA. Based on the Du-Pont approach to financial analysis, this would contain the following sub-hypotheses:

- Raw material costs as a percentage of sales, of firms using EVA is not significantly different from firms not using EVA.
- Power and fuel costs as a percentage of sales of firms using EVA is not significantly different from firms not using EVA.
- Employee costs as a percentage of sales of firms using EVA is not significantly different from firms not using EVA.
- Other manufacturing expenses as a percentage of sales of firms using EVA is not significantly different from firms not using EVA.
- Selling and administration expenses as a percentage of sales of firms using EVA is not significantly different from firms not using EVA.
- Miscellaneous expenses as a percentage of sales of firms using EVA is not significantly different from firms not using EVA.
- Current assets turnover ratio of firms using EVA is not significantly different from firms not using EVA.
- Fixed assets turnover ratio of firms using EVA is not significantly different from firms not using EVA.
- Inventory turnover ratio of firms using EVA is not significantly different from firms not using EVA.
- Debtors turnover ratio of firms using EVA is not significantly different from firms not using EVA.
- Net profit margin of firms using EVA is not significantly different from firms not using EVA.
- Return on investment of firms using EVA is not significantly different from firms not using EVA.
- Return on equity of firms using EVA is not significantly different from firms not using EVA.

Sample of study: An extensive review of financial statements, news reports and journals showed that 28 companies in India have been publishing their EVA figures for a long period of time. Of these, 21 firms were selected for a comparative study on the basis of availability of a similar firm not using EVA. The list of firms using EVA along with their comparison firms is given in Table 1.

Table-1: List of firms using EVA and the chosen comparison firm

Data Collection: Data of financial statements of the firms analysed were collected from the Capitaline Database for the period 2004-05 to 2013-14.

Data analysis methods: Two methods of analysis were adopted for the study as follows:

- *Case by case comparative analysis:* Comparative Du-Pont analysis of the financial statements was performed for the selected firms using EVA and the comparison firms for a case by case comparison. T-tests were performed for each of the financial variables to analyse whether the EVA firm performed better than the non-EVA firm.
- *Consolidated analysis:* The mean values of the financial parameters of all EVA firms were consolidated and compared against the comparison firms using the Du-Pont framework. T-tests were employed to study whether EVA firms as a whole performed better than non-EVA firms.

5. Results of the study:

Case by case comparative analysis: Table 2 gives the aggregate results of the case by case comparative analysis.

Table-2 : Results of case by case comparative analysis

Particulars	No of cases in which EVA firms perform significantly better	%
Expenses (% of sales):		
Raw materials	5	24
Power and fuel	7	33
Employee costs	6	29
Other manufacturing expenses	6	29
Selling and administration expenses	7	33
Miscellaneous expenses	3	14
Turnover ratios:		
Current Assets Turnover	6	29
Fixed Assets Turnover	11	52
Inventory Turnover	6	29
Debtors Turnover	7	33
Profitability:		
Net profit margin	7	33
RoI	5	24
RoE	4	19

The above table shows that in relation to fixed assets turnover, EVA firms performed significantly better than non-EVA firms in majority cases. Other financial parameters in which EVA firms showed significantly better performance in many cases are power and fuel costs, selling and administration expenses, debtors turnover and net profit margin.

Consolidated analysis: Table 3 provides the results of the consolidated analysis of the financial performance of EVA firms in comparison to non-EVA firms as a whole.

Table-3: Results of Comparative analysis of financial performance

Particulars	Mean - EVA firms	Mean – NonEVA firms	p value
Expenses: (% of sales)			
Raw materials	43.10%	44.43%	**0.02**
Power and fuel	6.78%	4.80%	0.95
Employee costs	20.06%	20.29%	0.45
Other manufacturing expenses	3.82%	3.32%	0.92
Selling and administration expenses	15.56%	14.75%	0.80
Miscellaneous expenses	4.51%	3.34%	0.93
Turnover ratios:			
Current assets turnover	2.47	1.74	**0.00**
Fixed assets turnover	6.18	4.99	0.11
Inventory turnover	5.80	6.63	0.96
Debtors turnover	13.99	11.52	0.16
Profitability:			
Net profit margin	14.13%	13.49%	0.78
RoI	16.50%	16.10%	0.48
RoE	18.89%	20.72%	0.06

* The highlighted cells represent values which are significant at 95% confidence level

An analysis of the above consolidated analysis shows that current assets turnover ratio of firms using EVA are significantly greater than those of firms not using EVA. The analysis also shows that the raw material costs are significantly lower for EVA firms when compared with non-EVA firms. However, there are no significant differences between the profitability of firms using EVA as compared to non-EVA firms as measured by net profit margin, RoI and RoE. Therefore only 2 out of the 13 sub-hypotheses stated earlier are not accepted.

6. Conclusions

Based on the results presented in the previous section, the following are the conclusions and implications of the study:

1. EVA firms perform better than non-EVA firms on some important financial parameters on a case by case basis. However, on a consolidated basis EVA firms do not perform significantly better than non-EVA firms on profitability parameters like net profit margin, RoI and RoE.

2. The study has shown that, in the Indian context, EVA adoption is not seen as a serious driver of profitability and value. Corporates should take to EVA adoption in a serious manner so that parameters like RoI and RoE can improve significantly as compared to non-EVA adopters.

3. Currently EVA disclosure is optional. Legal provisions can be made to make the disclosure of EVA mandatory.

4. One of the reasons of non-adoption of EVA is the lack of standardization. It would be useful to make the computation of EVA more simple and standardized. This would bring in uniformity and comparability.

Dedication: The authors humbly dedicate the paper to Bhagawan Sri Sathya Sai Baba, the Revered Founder Chancellor of Sri Sathya Sai Institute of Higher Learning, Prasanthinilayam.

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A Study of Post Reform Performance of Indian Public Sector Commercial Banks with Special Reference to Interest Rate Deregulation

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Abstract

The banks always remain the main participants of the financial system in any country. No country can have a healthy economy without a sound and effective banking system. Banking sector has made rapid progress in various phases. Before the establishment of banks, the financial activities were handled by moneylenders and individuals, and due to that people had to suffer a lot because of ignorance and many other reasons. The organized banking sector was established which was fully regulated by the government. In Into overcome such problems. In India, Reserve Bank of India (RBI) is the main governing authority and has been bestowed with extensive powers to work as central banking authority. The Reserve Bank of India was established on April 1, 1935 in accordance with the provisions of the Reserve Bank of India Act 1935. Most of Indian population resides in rural areas. Therefore banking sector had to make a number of reforms in its working in order to survive for its existence. Nowadays Indian banking system is working very efficiently in the country. In this paper, an attempt has been made to know the post-reform growth of banking sector by dwelling upon its growth in various phases. This paper is a small contribution to the existing vast knowledge of banking industry and will be useful for bankers, industrialist, policy maker and researchers.

Keywords: Liberalization, Banking System, Deregulation.

1. Introduction:

A bank is a financial institution that provides banking and other financial services to its customers. A bank is generally understood as an institution which provides fundamental banking services such as accepting deposits and providing loans. But there is also an existence of non-banking institutions that provides certain banking services without meeting the legal definition of a bank.

A banking system is also referred to as a system provided by the bank which offers cash management services for customers and reports the transactions of their accounts and portfolios throughout the day.

Now with the growth of economy in India, the banking system should not only be hassle-free but it should also be able to meet the new challenges posed by technology and any other external and internal factors. For the past three decades, India's banking system has had several outstanding achievements to its credit. The most striking is its extensive reach. It is no longer confined to metropolises or cities in India. In fact, Indian banking system has reached even to the remote corners of the country.The Banks are the main participants of the financial system in India. The banking sector offers several facilities and opportunities to their customers. All the banks safeguard the money and provide basic facilities such as loans, credit, and other payment services including checking accounts, money orders, and cashier's cheques India cannot have a healthy economy without a sound and effective banking system. The banking system should be hassle free and able to meet the new challenges posed by technology and other factors, both internal and external.

2. Review of Literature:

1991 marked a decisive changing point in India's economic policy since independence in 1947. Following the 1991 balance of payments crisis, structural reforms were initiated that fundamentally changed the prevailing economic policy in which the state was supposed to take the "commanding heights" of the economy. After decades of far reaching government involvement in the business world, known as the "mixed economy" approach, the private sector started to play a more prominent role (Acharya, 2002, pp. 2-4; Budhwar, 2001, p. 552; Singh, 2003).

The enacted reforms not only affected the real sector of the economy, but the banking sector as well. Characteristics of banking in India before 1991 were a significant degree of state ownership and far reaching regulations concerning among others the allocation of credit and the setting of interest rates. The blueprint for banking sector reforms was the 1991 report of the Narasimham Committee. Reform steps taken since then include a deregulation of interest rates, an easing of directed credit rules under the priority sector lending arrangements, a reduction of statutory pre emptions, and a lowering of entry barriers for both domestic and foreign players (Bhide, Prasad and Ghosh, 2001, p. 7; Hanson, 2001, pp. 5-7).

The regulations in India are commonly characterized as "financial repression". The financial liberalization literature assumes that the removal of repressionist policies will allow the banking sector to better perform its functions of mobilizing savings and allocating capital that ultimately results in higher growth rates (Levine, 1997, p. 691). If India wants to achieve its ambitious growth targets of 7-8 per cent per year as lined out in the Common Minimum Programme of the current government, a successful management of the systemic changes in the banking sector is a necessary precondition.

While the transition process in the banking sector has certainly not yet come to an end, sufficient time has passed for an interim review. The objective of this paper therefore is to evaluate the progress made in liberalizing the banking sector so far and to test if the reforms have allowed the banking sector to perform better

3. Liberalization in Banking Sector:

In the early 1990s, the-then Narsimha Rao government embarked on a policy of liberalization, licensing a small number of private banks. The policy came to be known as **New Generation tech-savvy banks**, and included Global Trust Bank (the first of such new generation banks to be set up), which later on merged with Oriental Bank of Commerce, Axis Bank (earlier as UTI Bank), ICICI Bank and HDFC Bank. This was a great initiative and along with the rapid growth in the economy of India, it revolutionized the banking sector which witnessed rapid growth with strong contribution from all the three sectors of banks, namely, government banks, private banks and foreign banks. The next stage for the Indian banking has been set up with the proposed relaxation in the norms for Foreign Direct Investment, where all Foreign Investors in banks may be given voting rights which could exceed the present cap of 10 per cent, at present it has gone up to 49 per cent with some restrictions.

The new policy transformed the banking sector in India completely. Bankers, till this time, were used to the 4-6-4 method (Borrow at 4 per cent Lend at 6 per cent; Go home at 4) of functioning. The new wave ushered in a modern outlook and tech-savvy methods of working for the traditional banks. All this led to the retail boom in India. People did not just demanded more from their banks but also received more. Today, in terms of quality of assets and capital adequacy, Indian banks are considered to have clean, strong and transparent balance sheets as compared to other banks in comparable economies in its region. The Reserve Bank of India is an autonomous body, with minimal pressure from the government. The stated policy of the Bank on the Indian Rupee is to manage instability but without any fixed exchange rate.

4. Structure of Banks in India:

In India, banks are segregated in different groups. Each group has its own benefits and limitations in its operations. Each one has its own dedicated target market. A few of them work in the rural sector only while others work both in rural as well as urban areas. Many banks are operating in cities only. Some banks are of Indian origin and some are foreign players. Banks in India can be classified into:

- Public Sector Banks
- Private Sector Banks
- Cooperative Banks
- Regional Rural Banks
- Foreign Banks

5. Interest rate Deregulation:

Prior to the reforms, interest rates were a tool of cross-subsidization between different sectors of the economy. To achieve this objective, the interest rate structure had grown increasingly complex with both lending and deposit rates set by the RBI. The deregulation of interest rates was a major component of the banking sector reforms that aimed at promoting financial savings and growth of the organized financial system (Arun and Turner, 2002b, p. 437; Singh, 2005, p. 18; Varma, 2002, p. 10).

The lending rate for loans in excess of Rs.200,000 that account for over 90 per cent of total advances was abolished in October 1994. Banks were at the same time required to announce a prime lending rate (PLR) which according to RBI guidelines had to take the cost of funds and transaction costs into account. For the remaining advances up to Rs200,000 interest rates can be set freely as long as they do not exceed the PLR (Arun and Turner, 2002b, p. 437; Reserve Bank of India, 2004a, p. 15; Shirai, 2002b, p. 13).

On the deposit side, there has been a complete liberalization for the rates of all term deposits, which account for 70 per cent of total deposits. The deposit rate liberalization started in 1992 by first setting an overall maximum rate for term deposits. From October 1995, interest rates for term deposits with a maturity of two years were liberalized. The minimum maturity was subsequently lowered from two years to 15 days in 1998. The term

deposit rates were fully liberalized in 1997. As of 2004, the RBI is only setting the savings and the non-resident Indian deposit rate. For all other deposits above 15 days, banks are free to set their own interest rates (Reserve Bank of India, 2004a, p. 11; Shirai, 2002b, p. 13f).

6. Objectives of the Study:

1. To study whether there is any effect of deregulation of interest rate on profitability of sample public sector banks in India or not
2. To study whether there is any effect on the profitability of the banks after deregulation of interest rate
3. To study the position of unutilized funds lying with the banks

7. Research Methodology:

The research was undertaken on the basis of secondary data available within public sector commercial banks. The sample of study consists State Bank of India (SBI), Punjab National Bank (PNB), UCO Bank and Bank of India. The sample is chosen on the basis of purposive sampling method for the convenience and ease of getting the required information.

With regards to statistical test, the study proposes to use Multiple Regression Equation to identify significant independent variables affecting profitability and whether the interest rate is found out to be one of those significant variables or not.

8. Data Collection:

The study is based on secondary data collected from the various volumes of banking statistics published by individual banks, Reserve Bank of India (RBI), Indian Banking Association (IBA) and the individual bank website.. The variables to be studied include PBDIT, PBIT, PBT and PAT etc.

9. Analysis and Interpretation:

Bank of India

Bank of India was founded on September 7, 1906 by a group of eminent businessmen from Mumbai. In July 1969 Bank of India was nationalized along with 13 other banks. Presently Bank of India was the first Indian Bank to open a branch outside the country, at London, in 1946, and also the first to open a branch in Europe, Paris in 1974.

Table-1: Multiple Regression Analysis of Bank of India

Dependent Variables	R	R Square	Adjusted R Square	Std Error
PBDIT/Total Income	1.000	.999	.969	.80387
PBDPTA/Total Income	.999	.997	.984	.94896
PBT/Total Income	.999	.999	.993	1.30665
PAT/Total Income	1.000	1.000	.999	.47565
PBDITA Net of P&E/Total Income Net of P&E	1.000	.999	.996	.80056
PBDPTA Net of P&E/Total Income Net of P&E	.999	.998	.986	.91463
PBT Net of P&E/Total Income Net of P&E	.999	.999	.993	1.26155
PAT Net of P&E/Total Income Net of P&E	1.000	1.000	.999	.44257

There is a negative relationship between profitability and return, assets, liquidity, capital adequacy. The reason for the negative correlation among the various variables studied for Bank of India is due to change in the policy reforms in 1993, which lead to the effect on the assets and returns of the bank. During the year 1993-1994, the Bank's profitability was affected by the negative effect on the returns. This was basically due to the change in the policy reforms which lead to the effect on the returns and assets.

The Bank's profitability was also affected by the excessive borrowings done by the Bank and there was decline in the retained profits in the year 1999-2000. The value of coefficient of multiple determination (R square) is quite high. The analysis revealed that about 99 per cent of variation in profitability is explained by the combined effect of independent variables whereas variables PAT/ Total income and PAT net of P&E/Total income net of P&E shows the 100 per cent effect.

UCO BANK:

A commercial bank was founded as United Commercial Bank with headquarters in Kolkata. It was nationalized in 1969 and was renamed UCO Bank in 1985.UCO Bank has entered into agreements for distribution of products of Life Insurance Corporation of India, National Insurance Corporation, Reliance Mutual Fund and UTI Mutual Fund. It has also tied up with Western Union to offer in-bound money transfer facilities.

Table-2 : Multiple Regression Analysis of UCO Bank

Table 2 shows the negative relationship between profitability and return, assets, liquidity, capital adequacy. The major reason for negative relationship is due to the fact stipulated by the Reserve Bank of India, banks were required to attain capital adequacy ratio of 8 per cent by 31 March 1996. Since quite a few public sector banks were not fulfilling this requirement. The capital infusion was through issuance of bonds carrying fixed coupon rates initially at the rate of 7.75 per cent per annum which, in subsequent issues, was raised to 10 per cent. Besides this, under the project sponsored by the World Bank for capital restructuring, the government availed of US$ 150 million as retroactive finance and provided these funds to six public sector banks by way of subordinated debt for their modernization initiatives.

Further, the study shows that the value of coefficient of multiple determination (R Square) is quite high. The analysis revealed that about 99 per cent -100 per cent of variation in profitability is explained by the combined effect of independent variables. It may be seen from the analysis that the required coefficient of variables is significant at 1 per cent level of significance. It may be seen that coefficient of determination is very high.

Punjab National Bank:

Punjab National Bank is headquartered at New Delhi. In 2003, Punjab National Bank acquired Nedungadi Bank, an old private sector bank in Kerala. The Bank owns a network of 4,569 offices. It provides access to 24,000 ATMs through ATM sharing agreements with other banks

Table-3 : Multiple Regression Analysis of Punjab National Bank

Table 3 shows a negative relationship between profitability and return, assets, liquidity, capital adequacy. The reason for the negative relationship is due to high amount of NPAs, which are due to a large quantum of PNB's loans were in the agriculture sector, as 67 per cent of the Bank's branches are in rural and semi-urban areas. Due to continuous drought, several of these loans had become bad accounts.

It can be seen from the analysis that the value of coefficient of multiple determination (R square) is quite high. However, PBDIT/Total income which shows coefficient of multiple determinations is 40 per cent. This was due to bad debts on agricultural loans. The analysis revealed that about 100% of variation in profitability is explained by the combined effect of remaining independent variables. It may be seen from the analyses that the required coefficients of variables are significant at 1 per cent level of significance and the coefficient of determination is very high.

State Bank of India:

SBI was constituted through an Act of Parliament on 8 May 1955, after the Reserve Bank of India acquired a controlling stake in the Imperial Bank of India, which then came to be known as State Bank of India. During the process of nationalization, the private ownership was retained, though on a minority basis. The State Bank of India (Subsidiary Banks) Act was passed in 1959, enabling State Bank of India to take over eight former State-associated banks as its subsidiaries.

Table-4 : Multiple Regression Analysis of State Bank of India

Dependent Variables	R	R Square	Adjusted R Square	Std Error
PBDIT / Total Income	.999	.998	.998	.81074
PBDPT / Total Income	.999	.998	.997	.86524
PBT / Total Income	1.000	1.000	1.000	.42086
PAT / Total Income	1.000	1.000	1.000	.03947
PBDIT Net of P&E / Total Income Net of P&E	.998	.995	.955	1.19238
PBDPT Net of P&E / Total Income Net of P&E	.998	.996	.960	.84250
PBT Net of P&E / Total Income Net of P&E	1.000	.999	.993	.50107
PAT Net of P&E / Total Income Net of P&E	1.000	1.000	.997	.19114

The tables shows a negative relationship between profitability and return, assets, liquidity, capital adequacy. The reason for the negative relationship is due to the rise in NPAs during the 1998-99 and 2001-02. There has been almost an increasing trend in recoveries, except in 1998-99 and 2001-02. The recoveries during the four years beginning from 1996-97 were Rs 930 crore, Rs 1,113 crore, Rs 830 crore and Rs.1,154 crore, respectively. SBI was inspected during 1996-97 by the RBI almost after a gap of two years. As in March 1994, the Bank had calculated its NPAs at Rs 11,596 crore while the RBI had estimated it at Rs 12,064.13 crore. In 1994, the RBI had also asked the Bank to hike its provisioning by Rs 369.84 crore i.e. from Rs 4,837.69 crore to Rs 5,207.53 crore during the year. Another challenge which the Bank is tackling is the headcounts. The Bank plans to up its headcount by 13,000 this fiscal,. The bank has 2,05,000 employees and around 8,000 personnel retire every year.. India's largest lender, State Bank of India, has identified its key challenges to be meeting capital requirements, bringing the cost to income ratio under control, and absorbing new recruits. Meeting capital requirements is a challenge for the Bank. SBI needs to raise additional capital for funding balance sheet growth, subsidiaries and acquisitions. Further, it can be seen from the analysis that the value of coefficient of multiple determinations (R Square) is quite high. The analysis revealed that about 99 - 100 per cent of variation in profitability is explained by the combined effect of independent variables. It may be seen from the analysis that the required coefficients of variables are significant at 1 per cent level of significance. It may also be seen that coefficient of determination is very high.

10. Conclusion:

It clearly indicates that the Indian banking sector has come far from the days of nationalization. The Narasimham Committee (1991) laid the foundation for the reform of the Indian banking sector. The Committee submitted two reports, in 1992 and 1998, which emphasized significant thrust on enhancing the efficiency and viability of the banking sector. As the international standards became prevalent, banks had to unlearn their traditional operational methods of directed credit, directed investments and fixed interest rates, all of which led to deterioration in the quality of loan portfolios, inadequacy of capital and the erosion of profitability. However, the banking sector reforms have provided the necessary platform for the Indian banks to operate on the basis of operational flexibility and functional autonomy, thereby enhancing efficiency, productivity and profitability.

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Shopping Involvement in Online Shopping : An Exploratory Study

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Abstract

Over the years, there has been an increasing number and variety of firms and organizations exploiting and creating web based business opportunities. Parallel, several researches have been conducted on business to consumer (B2C) e-retailing. However, in a country like India where the culture of E retailing in new , but the potential is huge there is a significant need to determine the derivers for customer satisfaction, trust and repeat purchase. Maintaining customer repeat-purchase intention and avoiding significant switching behavior to sustain operations and gain competitive advantage is thus important for E- retailers.

This research paper aims at investigating the impact of convenience, perceived risk, variety, shopping experience and price on the shopping involvement of the online customers. Moreover, the effect of shopping involvement and customer satisfaction is being evaluated on repeat purchase intensions of the customers. Based on the research findings, this study makes suggestions regarding management strategies typically for retailers who see Indian customers as a prospect for E- Retailing.

Keywords: Online shopping, e-retail.

1. Introduction :

An increasing number and variety of firms and organizations are exploiting and creating web based business opportunities. Parallel, several researches have been conducted on business to consumer (B2C) e-retailing (Benjamin and Wigand, 1995; Jarvenpaa and Todd, 1997; Liu and Arnett, 2000; Collier and Bienstock, 2006; Deng et al., 2010. With the growth of online shopping web sites the customer database has extensively increased in past few years and so has the research on this area. But the data for these studies have predominantly referred to the US markets or European markets, where determining factors for customer satisfaction have been extensively found out for E-retailing. However, in a country like India where the culture of E retailing in drastically new , but the potential is huge there is a significant need to determine the derivers for customer satisfaction, trust and repeat purchase. According to the report "Rebirth of E-Commerce in India, by Ernest and Young, 2011 number of online transactions are increasing at a significant pace and cash on delivery is the most preferred payment option with over 30% of buyers opting for it. Maintaining customer repeat-purchase intention and avoiding significant switching behavior to sustain operations and gain competitive advantage is thus important for E- retailers (Kuo and Hu, 2012).

So far, the Internet shopping has had a limited impact on Indian way of life. But a healthy growth in consumption and the technological awareness which India has witnessed has significantly led virtual retailers to establish itself in a prominent position in the country's markets. However, with the tightening of time constraints and more busy schedules in today's era has also lead customer's dependence on E- Retailing. In a competitive business environment, where customers have huge options for shopping, switching brands on the same website or even switching the websites appears more attractive. Notably switching costs are insignificant in the online shopping context. Customers can easily switch service providers with the click of a mouse. It has been witness that the tremendous growth on E- Commerce activities has led to an overall growth of E- Retailing (Refer Table 1). According to a report by Internet and Mobile Association of India, 2012 out of 19.6 million who accessed internet for shopping or for finding details related to a specific product or a service, nearly 73% (14.3 million) actually bought a product or a service in the end.

This paper aims at investigating the impact of convenience, perceive risk, variety, shopping experience and Price on the Shopping involvement of the online customers. Moreover, the effect of shopping involvement and customer satisfaction is being evaluated on repeat purchase intensions of the customers. From the practitioner perspective, measuring customer satisfaction and understanding its underlying dimension on repeat purchase intension is significant because it enables online sellers to benchmark their performance and to identify areas that require improvement. Based on the research findings, this study makes suggestions regarding management strategies typically for retailers who see Indian customers as a prospect for E- Retailing.

Table-1 : Growth of the market size of E- Commerce since 2009 in India.

DIGITAL-COMMERCE MARKET SIZE FROM 2009 TO 2013 (Figures in Crores. Percentages indicate share of the overall market size)					
YEAR	Dec 2009	Dec 2010	Dec 2011	Dec 2012	Dec 2013 (Estimated)
Total market size	19,249	26,263	35,142	47,349	62,967
Online Travel Industry	14,953 (78%)	20,440 (78%)	26,572 (76%)	34,544 (73%)	44,907 (71%)
Online Non-Travel Industry	4,296 (22%)	5,823 (22%)	8,570 (24%)	12,805 (27%)	18,060 (29%)
• E-Tailing	1,550	2,372	3,842	6,454	10,004
• Financial Services	1,540	1,848	2,255	2,886	3,607
• Classifieds	775	1,085	1,682	2,354	3,061
• Other Online Services	431	518	792	1,110	1,388

Source : Digital Commerce Report, 2013 (IAMAI).

2. Literature Review:

Berry et al. (2002) and Seiders et al. (2007) have extensively reviewed the literature on consumer convenience in a service economy and define "service convenience" as consumers' time and effort perceptions related to buying or using a service. As a context-based concept, consumers' perceptions of convenience can vary from one retail format to other. Much of the existing convenience literature has typically focused to a study of the development of the multidimensional service convenience construct in conventional stores with brick-and-mortar retailing environment (ClulowandReimers, 2009; Reimers and Clulow, 2009). But in some recent works on online shopping, construct of convenienceis treated as one of the major factors that prompt consumers to access online retailers' web sites (Ahmad, 2002; Jayawardhena et al., 2007, Jiang et al., 2012). Much of the prior research in the field of e-commerce has treated the convenience construct as one of the predictor variables towards customer service and trust,that affect outcome variables, such as customer satisfaction and behavioral intentions (Colwell et al., 2008; Seiders et al., 2007). The study conducted by Beauchamp and Ponder (2010) is in depth work on the convenience construct \which works on both online and offline shopping settings.

Convenience as referred earlier is not only in context to the customer convenience but also for the service providers. The level of perceived service convenience is primarily influenced by non-monetary costs – those relating to time and effort (or energy expenditure) (Jiang etal., 2012). Berry et al. (2002) had point out that the benefits of service convenience constitute saving time or effort, elements – time and effort. The time-saving aspect of convenience has been intensively investigated in consumer waiting literature, particularly with respect to consumer reaction to waiting time in retail stores (Gehrt and Yale, 1993). According to Schaffer (2000), 30% of the consumers who leave a website without purchasing anything do so because they are unable to find their way through the site. Schaffer (2000) argued that a convenient website provides a short response time, facilitates fast completion of a transaction, and minimizes customer effort. The impact of service convenience on customer involvement is yet to be evaluated for online shoppers. The less time and effort the customers require booking an order online the better he is satisfied with the service. So we can hypothesis that:

H1: Shopping convenience is positively related to customer iInvolvement.

As Hubbard (2007) explains, whenever there is risk, there is always uncertainty (although not vice versa). For online consumers, transaction with online vendors is considered uncertain and is a risky situation as compared

with the conventional buying-selling process. According to Kim and Kim (2005)consumers are given little opportunity to verify the quality of goods on their own and it is also not easy to test goods through interaction with the web vendor. When customers make a purchase from an unfamiliar web vendor, they are unable to judge the quality, and they do not know whether or not the service is reliable and legitimate. Risk affects the attitude and behavior of an individualin dealing with another party. The level of risk is an important factor in forming the customer's attitude and behavior in online transactions. Clearly a high level of risk will make it difficult for customers to utilize e-commerce. Perceived risk is thought of as the degree to which a consumer perceives a potentially negative outcome from the online transactions Featherman and Pavlou (2002). Kathryn and Mary (2002) suggested that perceived risk represents an individual's assessment ofthe relative probability of positive and negative outcomesof a given transaction or situation. Even though risk is a multidimensional construct, twotypes of risk are categorized in the context of Internet shopping; product category risk and financial risk. It issuggested that perceived risk correlates negatively with the degree of purchasing products online (Miyazaki and Fernandez, 2001).

H2: Higher the perceived risk, higher is the level of customer involvement.

Compared with a conventional retailer, an e-retailer is typically able to offer a wider range of product categories and a greater variety of products within any given category. A store in a mall is constrained by the availability and cost of floor space, whereas its online counterpart does not have such limitations. To illustrate, an e-retailer may keep only a limited assortment of a given product category in inventory but can form alliances with other suppliers and manufacturers that can ship products to customers of the e-retailer from their own, more extensive inventories. However, the customer has seamless access to the entire range of products carried by the alliance from the e retailer's website.Bergen, Dutta, &Shugan (1996) noted that consumer search costs associated with shopping across retailers increase with the number of competing alternatives. In contrast, an increase in the number of available alternatives at a single e-retailer can greatly reduce the opportunity costs of time and the real costs of inconvenience and search expended in virtual store hopping (Srinivasan etal., 2002). The e-retailer that offers greater choice can emerge as the dominant, top-of-mind destination for one-stop shopping and thereby increasing overall satisfaction. The role of shoppers involvement and the number of product variety is significantly not been studied. Although it can be judged with the high number of products available the customer involvement will surely increase.

H3: Higher the Product Variety higher will be the Customer involvement.

The (direct) price of e-shopping over the Internet falls into two parts. An individual must first pay the market participation price or purchase the necessary computer hardware, software, Internet subscription, and provide for future updating and replacement. In our research we have focused upon the price of product as the antecedent to the level of involvement of the customer.

Customer Involvement has often been regarded as one of the important moderators that determine the final purchase decisions of customers (Celsi& Olson, 1988). Consumers tend to perceive the shopping and consumption activities associated with products as personally relevant. Thus, they are likely to experience relatively high levels of enduring involvement with high cost products across many situations, such as electronics (Zaichkowsky, 1985). However, consumers may perceive low-enduring involvement toward frequently purchased household goods for which they pay low price. According to Suh and Yi, (2006) product involvement is likely to affect the satisfaction-loyalty relations by increasing or decreasing the effects on repurchase intentions of advertising, corporate image, and satisfaction.

H4: The higher the price of the product the higher is the level of involvement of the customer.

Shoppers are very often of the 'touch-and-feel' type, who prefers to handle and compare goods before deciding to buy. Indian shoppers regard shopping as an organic experience, and enjoy roaming the super markets, shopping malls and convenience stores in search of bargains while having an outing with the family. Under these circumstances, it is very important to discover whether consumers perceived at the outset that virtual shopping over the Internet would engender a comparable experience, and how significantly it tends to affect decisions to shop online.

H5: Higher the overall shopping experience higher will be the Customer involvement.

Involvement has been treated as major socio-psychological variable that explains individual differences (Festinger, 1957; Slama, 1985). Zaichkowsky (1985) defined involvement as a person's perceived relevance of the subject based on inherent needs, values and interests. The construct of Shopping Involvement has been studies for different retail formats. The difference our study creates is that the shopping involvement of a customer is being measured for the online shopping he makes. The variables being studies under shopping involvement are Perceived Risk, Shopping Convenience, Product Variety, Overall Shopping Experience and Price.

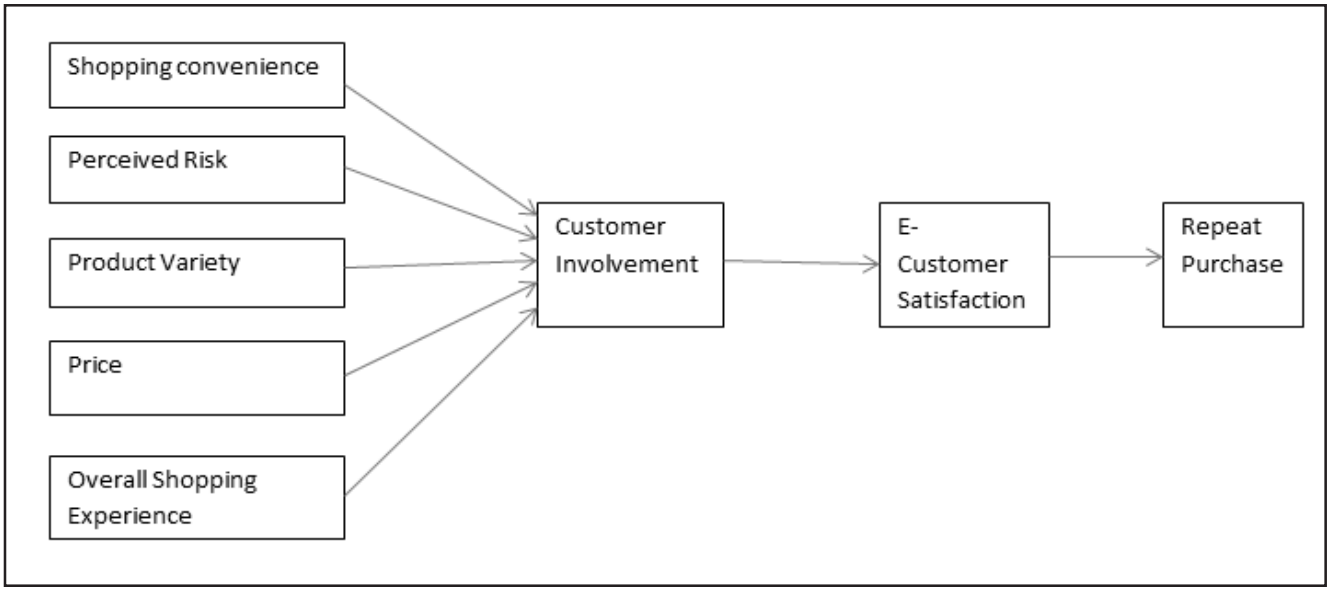
H6: More the customer involvement in shopping more the desire for satisfaction.

Repeat-purchase is the degree to which customers are willing to purchase the same product or service and it is predictor of future buying behavior (Lin and Liang, 2011). In this customer-oriented era, all retailers pursue customer satisfaction as essential to gaining sustainable growth and competitive advantages (Deng et al., 2010; Udo et al., 2010). The cumulative perspective of customer satisfaction is better for evaluating overall service

performance of the online retailer, and also more effective for predicting customer post-purchase behaviors or repeat purchase(Johnson et al., 2001; Liu et al., 2007). This study thus adopts the cumulative perspective and defines customer satisfaction as "an overall evaluation of past experiences with products or services purchased from a shopping website (Maxham and Netemeyer, 2002; Seiders et al., 2005).Many studies have concluded that customer satisfaction is positively related to repeat-purchase intention (e.g. Brady et al., 2001; Cronin et al., 2000; Zeithaml et al., 1996), and is a determinant of long-term repeat-purchase (Ranaweera and Prabhu, 2003). That is, higher cumulative satisfaction can lead to higher repeat-purchase intention and frequency (Maxham and Netemeyer, 2002; Seiders et al.,2005). But the studies which talk about the same in online retailing are limited. Like the same was found among studies of e-retailing and online shopping (CollierandBienstock, 2006; Lee and Lin, 2005). So we can frame our hypothesis as:

H7: Customer satisfaction positively influences repeat-purchase intention in online shopping.

Figure 1: Conceptual Framework



3. Research Method :

A structured questionnaire was developed which comprised of valid and reliable questions extracted from the previous literature. The questionnaire was then adopted in a pilot test involving 100 undergraduate and graduate students from two universities (Mahathma Gandhi University, Kottayam and Cochin University of Science and technology, Cochin) in Kerala. The score of 0.50 was used as the criteria for item deletion in overall item analysis. This was done to judge whether the removal of the items couldsignificantly enhance the total reliability of the questionnaire was considered.

Subsequently, this study used Cronbach's alpha to test the construct reliability. According to the results of the above analysis, no items were deleted and all constructs had Cronbach's a coefficients exceeding the 0.70 threshold, revealing considerable reliability (Nunnally, 1978).

Data were collected from a formal questionnaire consisted of four sections. The first section asked certain questions related to online shopping and shopping websites. The second section screened participants by its demographic profiling, the third part consists statements of variables Perceived Risk, Shopping Convenience, Product Variety, Price and Overall shopping Experience. The fourth part of the questionnaire had variables of Customer Involvement, Customer Satisfaction and Repeat Purchase. All items were assessed using five-point Likert scales ranging from 1= "strongly disagree" to 5= "strongly agree." Except for "Pricing" and "Product involvement" all the other constructs are derived from the previous literature works. Table I lists the research constructs and items included in the questionnaire which were taken from existing literature. A total of 300 respondents from different areas in the jurisdiction of these Universities were administered with the questionnaire. But there was a risk of whether the respondent had a prior knowledge of shopping online or not. To eliminate this we asked the first set of questions which had information about certain shopping websites. Later the questionnaires were screened for the answers; the respondents who gave the right answer for the first set of questions those questionnaires were included. So in all 264 questionnaires were screened as ideal for the further investigation. The scales used for the study are mentioned in Table 1.

4. Data Analysis:

Table -1: Measurement Scales used in questionnaire

We used SPSS.22 for the analysis. We first analyzed the each of the construct for reliability and validity. The process of purification considered of factor analysis (varimax rotation and elimination of items with multiple loading above 0.74) followed by examination of the levels of internal consistency (Coefficient Alpha Criteria).The KMO Bartlett test for scale reliabilty was .692.The sample items were first checked for the reliability using Cronbach's Alpha. A value of 0.6 or less generally indicates unsatisfactory results (Malhotra, 2007, p. 282 and Hair, 2007, p.88). The value of Cronbach's alpha for the sample selected for the study came .885 which is greater than .6; it implies that data collected was reliable. Reliability of data collected was tested on individual scales also. The Cronbach's alpha for the individual constructs was tested and was satisfactory. The model described in Fig.1 was tested using structural equation modeling in LISREL 8. The whole statistics establish acceptable model fit (CFI= .985, NFI= .984, RMSEA=.072, $\div^2$ = 359.86 with df= 163). Normality, skewness, and kurtosiswere examined through descriptive analysis. The outcome of confirmatory factor analysisdemonstrate overall fit was acceptable (CFI= .988, NFI=.991, RMSEA = .063,$\div^2$ =381 with 191 df).

The above result was supported by previous research (Kline, 2005, Steiger, 2007). Consequently convergent validity was evaluated by examining the magnitude, direction, and statistical significance of the examined standardized factor loadings (Anderson and Gerbing, 1988).The entire significant factor loading are represented in Table.1. This research reported the average variance extracted (AVE) and reliabilities for different construct. The result was braced by previous research Gerbing and Anderson (1992). The reliability and AVE of different construct were reported for perceived risk (0.95, 0.869), Shopping convenience (0.93, 0.927), product variety (0.85, 0.827), price (0.88, 0.852), customer involvement (0.86,0.793), overall shopping experience (0.93,0.901), customer satisfaction (0.96,0.846), repeat purchase (0.91, 0.846). Table2. Explained the correlation which supported the AVE value of any two constructs should be greater than squared correlation. The outcome of nested models, sequentially fixing correlation (phi's) to 1 Anderson and Gerbing (1998). This research examined one pair of factor at a time, and found support for discriminant validity which was supported from (Dabholkar et al., 1996).

Table-2 : Correlation

construct	Perceived Risk	Shopping Convenience	Product Variety	Price	Customer Involvement	Over all Shopping Experience	Customer satisfaction	Repeat Purchase
Perceived Risk	0.932							
Shopping Convenience	0.349	0.962						
Product Variety	0.219	0.628	0.909					
Price	0.594	0.107	0.763	0.923				
Customer Involvement	0.629	0.392	0.548	0.361	0.890			
Over all Shopping Experience	0.429	0.586	0.326	0.259	0.673	0.949		
Customer satisfaction	0.395	0.418	0.295	0.471	0.512	0.305	0.946	
Repeat Purchase	0.462	0.523	0.287	0.372	0.371	0.634	0.459	0.919

Table 3: Multiple Regression Analysis

	B	Standardized Coefficients Beta	t- Value	Sig
Constant	3.069		4.985	0.000
Shopping Convenience	0.353	0.228	3.714	0.000
Perceived Risk	0.316	0.435	3.281	0.000
Product Variety	0.492	0.177	3.807	0.000
Price	0.410	0.049	2.333	0.000
Overall Shopping Experience	0.463	0.219	2.795	0.000

A multiple regression analysis was run to assess the degree to which the shopping convenience, perceived risk, product variety, price and overall shopping experience are associated with the customer involvement. Table 3 depicts the results of multiple regressions. Entering the five variables as the independent variables in the multiple regression the R value came out to be .843 and p=.000.The Durbin and Watson value was recorded as 2.65. The findings of the result depicted shopping convenience (B= 0.353), Perceived Risk (B=0.316), Product Variety (0.492), price (0,410) and Overall shopping experience (0.463) all five had a strong impact on customer involvement. Among thefive variables, product variety was found to have the strongest impact with t=3.807, p=0.000. So the results of multiple regressions prove our hypothesis H1, H2, H3, H4 and H5.Another important aspect of the study was to study the relationship between customer involvement and customer E satisfaction and also to analyze the relationship between Customer E satisfaction and Customer Retention. A linear regression was run to analyze the customer involvement is significantly related to customer satisfaction, the results also demonstrate the same. The linear regression was run between customer involvement as independent variable and customer E satisfaction as dependent variable. The R value came out to be .862 and p=.000. The findings of the result depicted that customer involvement (B = 0.534, T = 3.084 and p= 0.003) had a strong impact on customer E satisfaction. Hence hypothesis H6 is proved. Similarly, the linear regression between Customer E satisfaction and Customer Retention was run. The value of R came out to be 0.813 and p= 0.000. The findings depicted that customer e satisfaction is (B= 0.424, T= 0.360, p= 000) had a strong impact on customer E satisfaction. Hence hypothesis H7 is proved.

5. Conclusion :

The conclusion drawn from this study makes contributions in two main areas. First it helps to derive the antecedents to customer involvement and secondly it explains the relationship of customer involvement, Customer E satisfaction and Customer Retention. More specifically, Perceived Risk, Shopping Convenience, Product Variety, Price and Overall shopping Experience have significant relationship with online shopping involvement. Further, the results showed a positive relation between customer involvement and customer E involvement and also between customer E satisfaction and Customer Retention. The analytical results are generally consistent with previous studies (Muniz and Guinn, 2001). Our study is important from the perspective of academicians and managers. E-Retailers must build and manage high quality, long-term relationships with their customers. Therefore, our study has important implications for the management of online customer retention. Moreover the study focuses on the construct of Customer involvement. It suggests that e- retailers should pay more attention towards building customer involvement. Specifically through emphasizing of the five variables being focused in the study. It is widely recognized that customer retention has a powerful impact on the performance of Internet based businesses. This study confirms the robustness of Shopping involvement, explaining Perceived Risk, Shopping Convenience, Product Variety, Price and Overall shopping Experience for users within the context of online shopping.

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Importance of Market Intelligence, Price Forecasting and Time Series Analysis in Agriculture

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Abstract

Agriculture is the backbone of Indian economy. Agriculture, with its allied sectors, is unquestionably the largest livelihood provider in India. The Indian agriculture sector accounts for 14 per cent of India's gross domestic product (GDP) and employs just more than 50 per cent of the country's workforce. It has to support almost 17 per cent of world population from 2.3 per cent of world geographical area and 4.2 per cent of world's water resources .In 2013-14 India achieved a record food grain production of 264 million tonnes , beating the previous year's (2012-13) 257 MT, according to data provided by Department of Economics and Statistics .Amidst in these high potentiality, we are facing lots of challenges in the marketing aspects of agriculture. Better marketing with increased and assured remuneration is the need of the hour to foster and sustain the tempo of rural economic development.

For bettering marketing prospects in agriculture, market intelligence needs to be bettered.

Keywords: Market intelligence, price forecasting

1. Introduction :

Market Intelligence (MI) is knowledge based management system which may be defined as a process primarily based on market information collected over period of time. An analysis based on past information helps to take decision about the future. MI synthesizes information from many diverse sources to form greater insights. It requires sophisticated understanding of strategic trade goals and to widen trade opportunities. It provides diversified avenues to examine the market behaviour of agricultural commodities to facilitate all the stake holders. It is an essential function for the formulation of sound price and trade policy.

Generally, the role of MI can be pointed as follows :

- Provides better understanding of the forces that are operating in a particular situation as well as anticipating situation.
- Provides regular and continuous appraisal of market behaviour and of various factors that influences the market behaviour.
- Offers a solution to the probable behaviour of market and forces that is likely to influence it in the near future.
- Helps evaluation of the functioning of the marketing organisations with a view to ensuring efficient and effective implementation of agricultural marketing and price policy.
- Offers proper advice in influencing market players for ensuring remunerative prices to the farmers, supply of commodities and to maintain stability in market prices.
- Provides the collection of data on prices, arrivals, stocks, release of important agricultural commodities for the selected market centres of the country.
- The data are reported by technical personnel such as market information inspector, price inspectors, statistical investigators, market secretaries, etc and are posted in the selected markets of the country.

The importance of flow of market information has increased considerably in recent years particularly in case of fruits and vegetables.

2. Methodology :

By reviewing all relevant articles from secondary sources of information, Research data arecompiled for

preparation. model is used along with basic statistics. Secondary data of Turmeric from major markets of India are collected from agmarknet.nic.in and Regional Market Centre (RMCs). **Autoregressive integrated moving average (**ARIMA) / Seasonal Auto Regressive Integrated Moving Average (SARIMA) model will be used for forecasting purpose. R software package has been used. Secondary data from Agricultural Marketing Information Centre (AMIC) , Kerala Agriculture University (KAU) has been collected.

3. Review of Literature :

Erik Hjalmarsson and Par Osterholm (2007) have investigated the properties of Johansen's (1988, 1991) maximum eigenvalue and trace tests for co integration under the empirically relevant situation of near-integrated variables. Using Monte Carlo techniques, we show that in a system with near-integrated variables, the probability of reaching an erroneous conclusion regarding the co integrating rank of the system is generally substantially higher than the nominal size. The risk of concluding that completely unrelated series are co integrated is therefore non- negligible. The spurious rejection rate can be reduced by performing additional tests of restrictions on the co integrating vector(s), although it is still substantially larger than the nominal size.

Rangsan Nochai and Titida Nochai (2006) This research is a study model of forecasting oil palm price of Thailand in three types as farm price, wholesale price and pure oil price for the period of five years, 2000 – 2004. The objective of the research is to find an appropriate ARIMA Model for forecasting in three types of oil palm price by considering the minimum of mean absolute percentage error (MAPE). The results of forecasting were as follows: ARIMA Model for forecasting farm price of oil palm is ARIMA (2,1,0), ARIMA Model for forecasting wholesale price of oil palm is ARIMA (1,0,1) or ARMA(1,1), and ARIMA Model for forecasting pure oil price of oil palm is ARIMA (3,0,0) or AR(3) . In this paper, we developed model for three types of oil palm price, were found to be ARIMA(2,1,0) for the farm price model, ARIMA(1,0,1) for whole sale price, and ARIMA(3,0,0) for pure oil price. Which we can see that the MAPE for each model very small.

Megha Mukim, Karan Singh, A Kanakaraj (2009) they have examined whether the wheat market is integrated across states in India, and concludes that the market is integrated in the long run. This long run integration, however, does not come from the free flow of goods across states in the country, but from the sharing of similar production technologies by farmers across states. The paper also shows that the market for wheat is not integrated in the short run. This implies that at a given time period there exist two prices for the same commodity, since transaction costs are the main barriers to market integration. The paper also estimates such transaction costs using transport and communication infrastructure indices across states, and concludes that there exist large variations resulting in high transaction costs.

Madhusudan Ghosh (2003) has investigated intra-state and inter-state spatial integration of wheat markets in India. In view of the limitations of the methods used earlier for investigating market integration in Indian agriculture, this study has utilized the ML method of co integration. Intra-state regional integration of wheat markets has been evaluated by testing the linear long-run relationship between the prices of the state-specific variety of wheat quoted in spatially separated locations in five selected states. The co integration results for Bihar and UP indicate that the regional wheat markets were integrated to such an extent that the weak version of the LOP was in operation. The co integration tests also offer evidence for regional wheat market integration in Haryana, Punjab and Rajasthan; but no evidence is found in favour of the LOP for these states. The results for inter-state regional wheat markets represented by five market centres chosen from the five selected states reveal three co integrating vectors and two common stochastic trends. Contrary to Jha *et al.* (1997), we find that though all the prices taken together are integrated, they are not pair-wise co integrated.

Christopher B. Barrett (2005) considered that markets aggregate demand and supply across actors distributed in space. Well-integrated markets play a fundamental role in ensuring that macro level economic policies change the incentives and constraints faced by micro-level decision-makers, in distributing risk and in preserving incentives to adopt improved production technologies. Yet the literature is replete with evidence of forgone arbitrage opportunities in both intra- and inter-national trade. Given limited data and the restrictive assumptions of existing empirical methods, economists still have only a fragile empirical foundation for reaching clear judgements about spatial market integration as a guide for corporate or government policy. The literature on price forecasting has focused on two main classes of linear, single-equation, reduced-form econometric models as well as Time Series models. The first group (Financial Models) includes models which are directly inspired by financial economic theory and based on the market efficiency hypothesis (MHE), while models belonging to the second class (Structural Models) consider the effects of commodity market agents and real variables on commodity prices.

Reza Moghaddasiand and Bita Rahimi Badr(2008) considered wheat (Bread) is a dominant product in the consumption basket of Iranian households and can be considered as a strategic commodity. In this paper different econometric models including structural and time series models are specified and estimated. The literature on price forecasting has focused on two main classes of linear, single-equation, reduced-form econometric models as well as Time Series models. The first group (Financial Models) includes models which are directly inspired by financial economic theory and based on the market efficiency hypothesis (MHE), while models

belonging to the second class (Structural Models) consider the effects of commodity market agents and real variables on commodity prices. Then forecasting performance of these models are evaluated and compared by using common criteria such as: root mean square error, mean absolute error, mean absolute percentage error and the inequality coefficient. The data used in this study include annual farm and guaranteed prices of wheat and rice(as a competitive product) and wheat stock for 1966 to 2006.Main findings reveal the superiority of time series models(unit root and ARIMA(3,2,5)) for forecasting of wheat price. ARIMA) annual models outperformed the structural model in predicting the price of wheat for the period 1966-2006. The unit root and ARIMA models were also constructed using only the information provided by the historical time series of the variable being forecast; hence the amount of information required to develop these models was considered to be less than those employed in formulating the structural models. Likewise the costs involved in developing the econometric structure forecasting models were considered to be more than the cost associated in developing time series models. It is difficult to conclude about the adequacy of the forecasts derived from the selected models, since it largely depends on the particular use to which the price predictions are to be employed.

Chakriya Bowman and Aasim M. Husain (2004) in theirs paper aim to assess the accuracy of alternative price forecasts for 15 primary Commodities over the past decade. A number of alternate measures of forecast performance, having to do with statistical as well as directional accuracy, are employed. The analysis indicates that although judgmental forecasts tend to outperform the model-based forecasts over short horizons of one quarter for several commodities, models incorporating futures prices generally yield superior forecasts over horizons of one year or longer. Spot and futures prices were generally found to be non stationary and, in most cases, spot and futures prices appear to be co integrated. Although there is considerable co movement between spot and futures prices, futures prices tend to exhibit less variability than spot prices. Hence, futures prices tend to act as an anchor for spot prices, and error- correction models that exploit the long-run co integrating relationship provide better forecasts of future spot-price developments. When evaluating the *ex-post* effectiveness of forecasts, standard statistical measures are commonly used. Mean pricing error, mean absolute pricing error, mean absolute relative pricing error (*MARPE*), median absolute relative pricing error and root mean squared error (*RMSE*) are typically calculated and the results used to generate conclusions about the accuracy of forecasts. This research will focus primarily on*RMSE*, which gives a measure of the magnitude of the average forecast error, as an effectiveness measure. The ECM forecasts outperform the other types of forecasts for eight of the fifteen commodities at the eight quarter horizon. In some of these cases, the ECM forecast performance is superior in both statistical and directional terms (wheat, soybeans, and soybean meal), although for several commodities the ECM yields significantly better directional accuracy at the expense of somewhat lower statistical accuracy (aluminum, lead, nickel, zinc, and maize). For another four commodities (tin, soybean oil, sugar, and cotton), the ECM performs about as well as judgment at the eight-quarter horizon, and both perform better than the best unit root/ARMA forecasts.

Padhan, P.C., (2012) considered that forecasting of any issues, events or variables requires an in- depth understanding of the underlying factors affecting it. Such is the case for forecasting annual productivity of agricultural crops. Agricultural productivity, in the context of India, extensively depends upon numerous factors namely: good rainfall, timely use of appropriate fertilizer and pesticides, favorable climate and environments, agricultural subsidies given to farmers etc. Therefore, forecasting productivity of agricultural crops is not only tedious but also indispensible, as large chunk of people depends on agriculture for their livelihood. Various uni-variate and multi-variate time series techniques can be applied for forecasting such variables. In this paper, ARIMA model has been applied to forecast annual productivity of selected agricultural product. For empirical analysis a set of 34 different products has been considered, contingent upon availability of required data. Applying annual data from 1950 to 2010, forecasted values has been obtained for another 5 years since 2011. The validity of the model is verified with various model selection criteria such as Adj R2, minimum of AIC and lowest MAPE values. Among the selected crops, tea provides the lowest MAPE values, whereas cardamom provides lowest AIC values.

Liew Khim Sen, Mahendran Shitan and Huzaimi Hussain (2007) It is important to forecast price, as this could help the policy makers in coming up with production and marketing plan to improve the Sarawak's economy as well as the farmers' welfare. In this paper, we take up time series modelling and forecasting of the Sarawak black pepper price. Our empirical results show that Autoregressive Moving Average (ARMA) time series models fit the price series well and they have correctly predicted the future trend of the price series within the sample period of study. Amongst a group of 25 fitted models, ARMA (1, 0) model is selected based on post-sample forecast criteria.

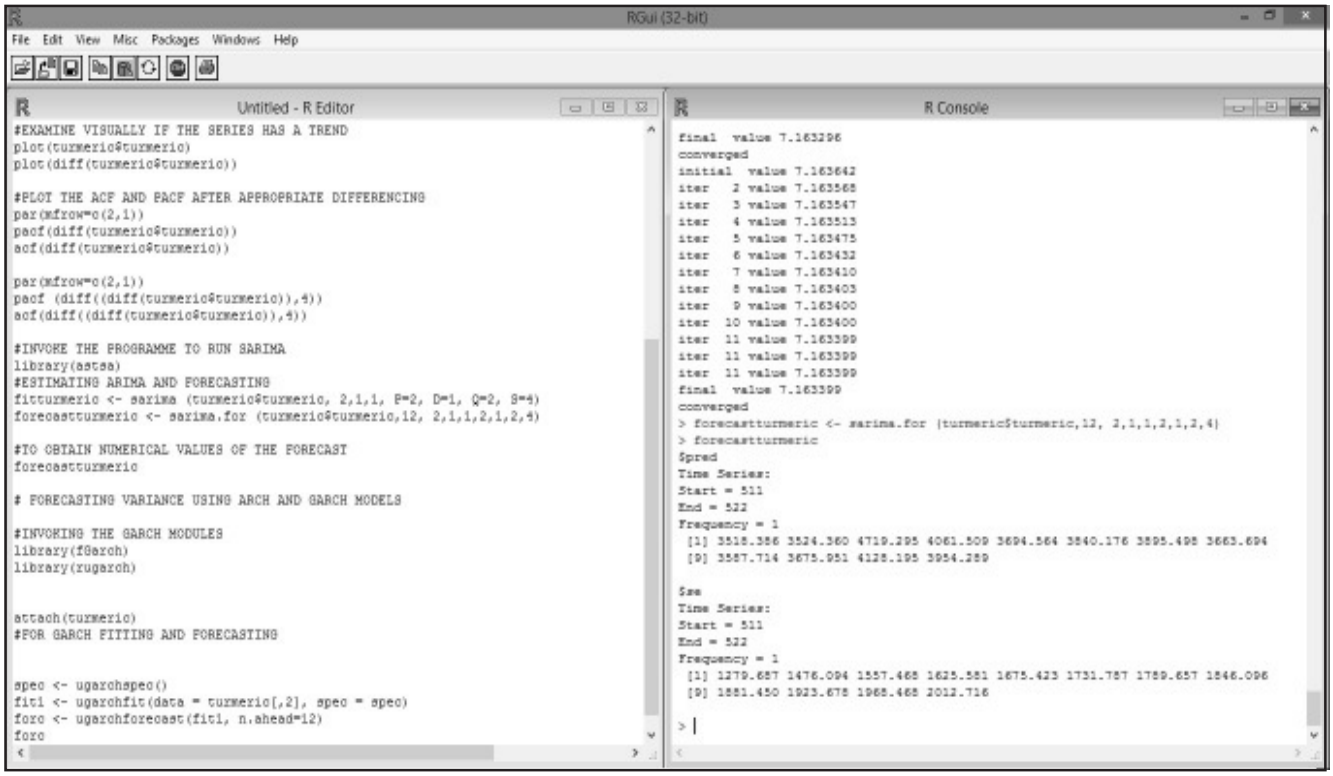
4. Price Forecasting :

Price forecasting plays an important role in augmenting the growth of agricultural sector at the zenith level. Forecasting is the process of making statements about events whose actual outcomes (typically) have not yet been observed. A common place example might be estimation of some variable of interest at some specified future date.

Price is the primary mechanism by which various levels of the market are linked. The extent of adjustment and speed with which shocks are transmitted among producer, wholesale, and retail market prices is an important factor reflecting the actions of market

participants at different levels. Price forecasting has been very important in decision making at all levels and sectors of the economy. In agriculture, where the decision environment is characterized by risks and uncertainty largely due to uncertain yields and relatively low price elasticity of demand of the most commodities, decision makers require some information about the future and the likelihood of the possible future outcomes. Price forecasts are critical to market participant making production and marketing decisions and to policy makers who administer commodity programs and assess the market impacts of domestic or international events. Therefore commodity price movements have a major impact on overall macroeconomic performance. Hence, commodity price forecasts are a key input to macroeconomic policy planning and formulation.

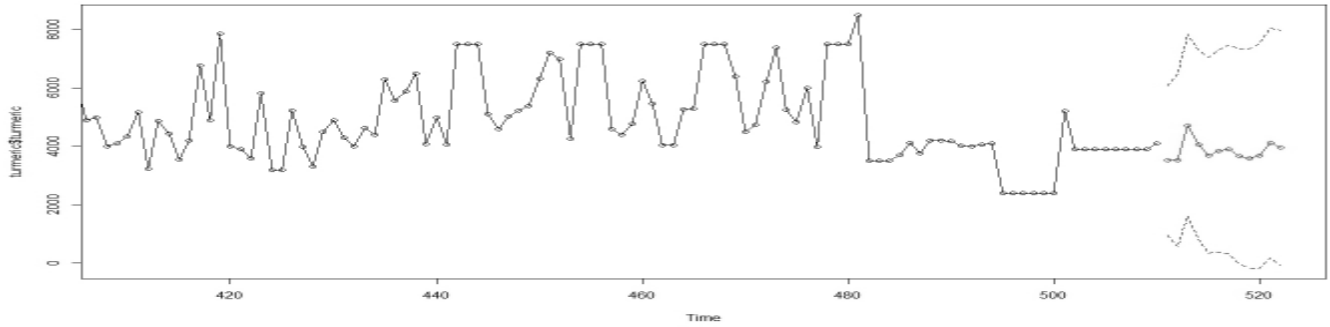
An Example for the Analysis of Price Forecasting of Turmeric in Odisha Using R Software (weekly data from January 2004 to august 3rd week 2014) ARIMA MODEL (2,1,2) (courtesy AGMARK net , OUAT BBSR)

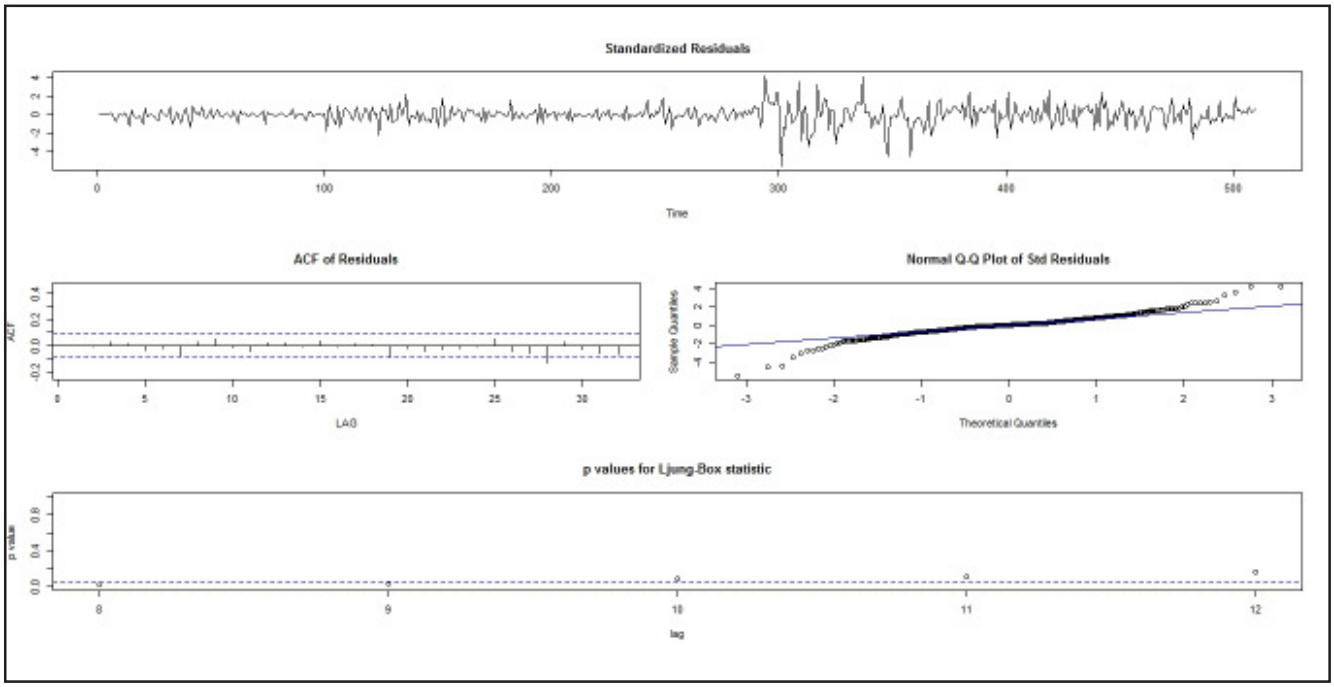


Forecasted Price Values of Turmeric for Next Two Months

```
> forecastturmeric <- sarima.for (turmeric$turmeric,12, 2,1,1,2,1,2,4)
> forecastturmeric
$pred
Time Series:
Start = 511
End = 522
Frequency = 1
 [1] 3518.386 3524.360 4719.295 4061.509 3694.564 3840.176 3895.498 3663.694
 [9] 3587.714 3675.951 4128.195 3954.289
```

Forecasted Graph of Turmeric Price Data





The graph and forecasted values shows that price remains in between Rs 3500-4700 per quintal in the next two month. So the farmers can take steps in marketing during the peak price season.

5. Time Series Analysis :

We separately study the nature and behaviour of various components of prices and other time series variables in the time series analysis. To analyse the nature of inter temporal behaviour of prices we require time series data on prices for various agricultural commodities over time and space.

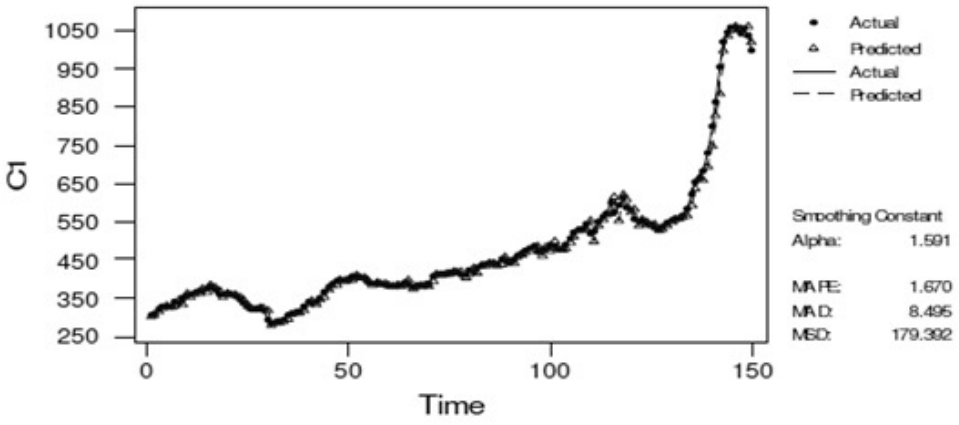
5.1 Components of Time Series :

5.1.1 Trend Factor

These are those which reflect movement in the economic variable over time. If the Time series data is collected over different years, then we can analyse the trend factor and measure the growth or recession of the variable over several years. The prices of the commodities, production of goods and services etc can be measured through this.

Example- Tapioca price in kerala(courtesy-AMIC , KAU)

Fig 1: Graph of single exponential smoothening model for Tapioca prices

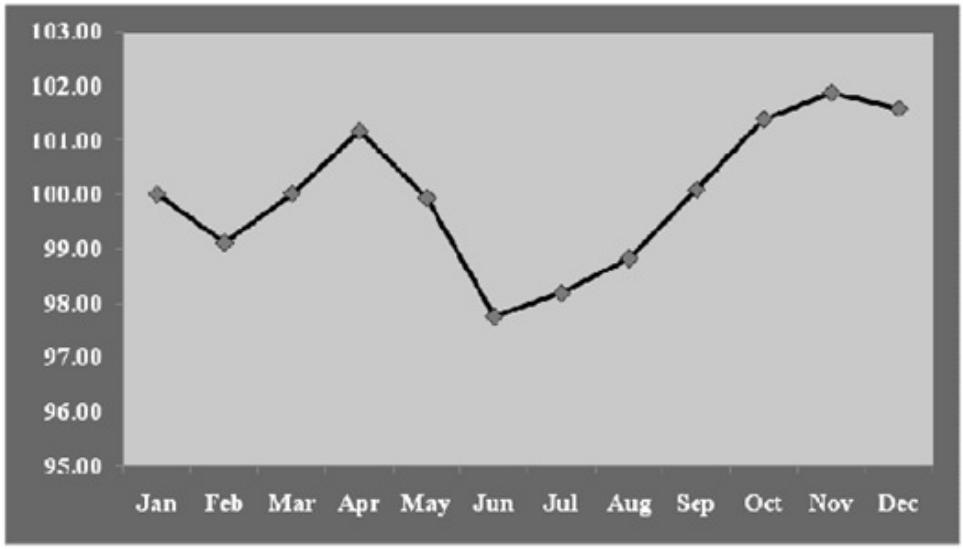


5.1.2 Seasonal Factor

Almost all businesses tend to have recurring seasonal patterns. It relates to specific season of the year or month. If the Time series data are available over seasons of the year or months, we can separate Seasonal factor and measure the seasonal component for making appropriate decisions regarding seasonal variations. The seasonal variations refer to systematic though not necessarily regular intra-year movements in a time series. Seasonal indices were worked out to capture the seasonal patterns in the price data. The seasonal index showed a declining trend for prices during the harvest period when market arrivals are maximum. The consumption of meat, chicken, eggs etc undergoes variation over different season or months.

Example- Tapioca price in kerala(courtesy-AMIC , KAU)

Fig.2. Seasonal variations of monthly state average Tapioca prices

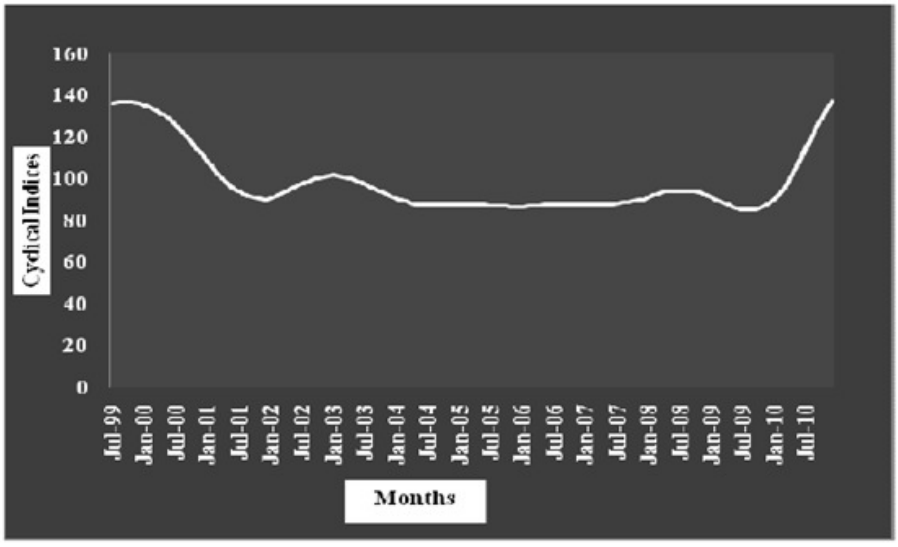


5.1.3 Cyclical Factor

These are long term fluctuations and we require very large Time series data to analyse the cyclical component. . A typical business cycle consists of a period of prosperity followed by periods of recession, depression, and then recovery with no fixed duration of the cycle. Cobweb theorem is used to study the cyclical component. According to this the effect of price change on production of commodity is felt with one time lag. So in Agriculture the existence of time lag is due to the inherent characteristics of the crop. For dryland agriculture, time lag is 1 year, for irrigated crop the time lag may be one season, for livestock and orchard the time lag is still longer.

Example- Tapioca price in kerala (courtesy-AMIC , KAU)

Fig.3. Cyclical variations in the monthly state average prices of Tapioca

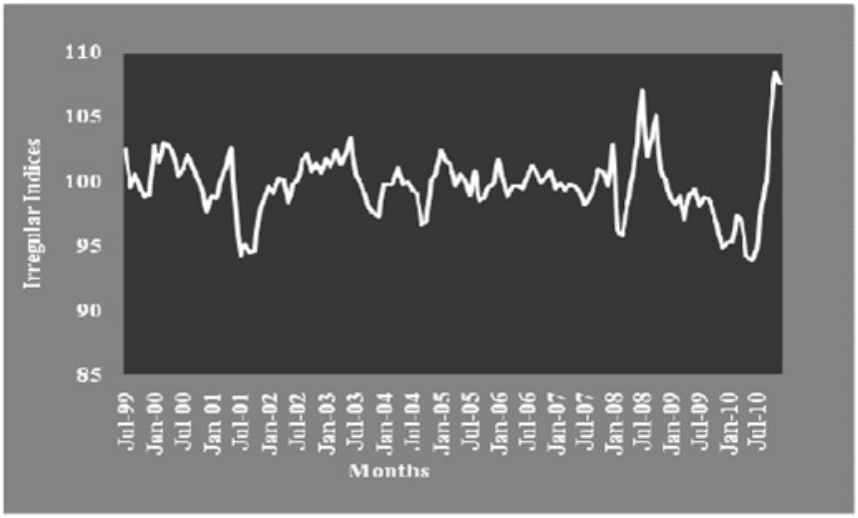


5.1.4 Irregular Factor

The random component is an unpredictable component as a result of unforeseen situations like weather related production problems or demand or supply uncertainties due to a host of factors or due to speculative activities. The indices of irregular variations have been worked out to capture the random effect .This includes all other omitted factors which influence the value and magnitude of economic variable, changes in tastes and preference which are not specifically related to passage of time/ trend .

Example- Tapioca price in kerala (courtesy-AMIC , KAU)

Fig.4. Irregular variations in the monthly state average prices of Tapioca



So in general Market Intelligence, Price forecasting and Time series analysis play vital role in the keeping the pace of Agricultural sector. They help in taking policy making decisions to cop up with facing challenges.

6. Conclusion :

By using intelligence we can be able to check the malpractice and irregular practice of mintroduction and price spread.

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The Determinants of Service Quality: A Study in E-Retailing

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Abstract

The expeditious development of technology and the internet has diverted the company direction to retain customer satisfaction by providing superior service quality. Service quality is becoming an area of great interest for companies and it has a straight impact on the profitability of a company. With regard to customer service quality importance, we investigate the determinants of service quality which affects customers. Measurement and improvement of e-service quality is important for keeping competitive advantage of an e-retail site. If online retailers understand what dimensions customers use to evaluate quality, they can take appropriate actions to monitor and enhance performance on those dimensions and remedy service failures. This paper focuses on investigating the effective factors in successful electronic retailing. In order to test the factors a questionnaire survey was designed and questionnaires were sent to online customers of e-retailing; the sample consisted of 452 respondents. By conducting exploratory factor analysis and structural equation model we found that responsiveness, security, Website design, reliability, ease of use and personalization are the six dominant factors which influence consumer perceptions of e-retailing.

Keywords: Service Quality, e-Retailing

1. Introduction :

With the growth of internet application by non-professional users in India, many retailing companies tend to sell their services and goods online instead of the traditional ways. Online shopping in India is an emerging trend for marketers to promote their products in wide geographical areas using the internet and the trend is likely to grow upwards over the coming decade. Online retail sector is a booming sector with exceptional development potential. The sector poses itself as one of the capable avenues for investment by entrepreneurs. An online selling system can make opportunity for the system to bring in its goods and services, advertise its new items, sell well and speedily, and receive money online. Due to these changes, e-retailing companies are trying to get loyal customers to ensure their survival. Customers' loyalty is considered essential because of its positive effect on long-term profitability. Several authors indicated that e-loyalty is subsequently of interactions of e-service quality, e-customer satisfaction, trust and perceived customer value.

Online retailing in India is bound to experience high growth rates on the backbone of rising internet penetration in the country, growing disposable incomes, the smart phone revolution and also the dominance of the younger population in the country's demographics. The market share in India is one of the fastest rising e-commerce markets in Asia-Pacific and the industry expecting it to raise $8.8 billion by the end of 2016. The youth of our country has contributed a great deal to this increase irrespective of the geographical locations. The people of age group 15-25 years, literally live and breathe through the internet. Purchasing items with just few clicks has become the newest and the latest trend of shopping, which hurts not only saved time but more importantly money. In today's world, no one has time to walk to different shopping malls or to cover great lands to buy products to fulfill their daily needs. E-retailing is the second biggest category of Indian e-commerce industry. E-tailing or online retailing includes consumer items like electronics, jewellery, mobile phones, computer peripherals, home appliances, apparels, shoes and toys. Moreover lifestyle accessories like watches, books, beauty products and perfumes and baby products are gaining traction.

Going along with the changing styles, today's Indian consumers increasingly desire to savor the convenience of shopping online. They do not desire to endure through the hassles of rushing to brick and mortar stores; instead, they want to order the products of their choice by sitting at home and bring the goods delivered at their doorsteps.

And such changes have contributed to the explosive development of e-tailing industry in the country. Top e-retailers in the Indian e-commerce landscape are homeshop18, ebay, flipkart and snapdeal contributing ~70% of the e-tailing market. (Source: NPCS Research, IAMAI)

2. Electronic Retailing :

E-retailing is a subset of e-commerce consists of buying and selling of products or services over electronic systems such as the Internet and other computer networks. In simple terms, E-tailing refers to retailing over the internet. With the rapid growth of commercial enterprise to consumer (B2C) electronic commerce (e-commerce), electronic retailers realized that irrespective of their business type and product offerings, they are requested to deliver superior service quality over the web, termed e-service quality. Delivering high quality service is considered an essential strategy for business success and survival (Reichheld & Schefter 2000; Zeithaml et al. 1996). Initially, companies focused on establishing attractive websites to interact and spend along with online shoppers. Accordingly, a number of attempts have been made to understand e-service quality in terms of web interactivity (Aladwani & Palvia 2002; Loiacono et al. 2007). Such approaches on measuring e-service quality using cues that emerge from interacting with the internet site were found to be insufficient and inappropriate to measure the role of the online service experience.

3. Service quality :

Service quality is normally defined as the difference of expected service and perceived service. Quality service is the customer's subjective assessment that the avail they are receiving meets and exceeds their expectations. (Gronroos, 1982 and Parasuraman et.al, 1988). "Service quality is a focused appraisal that reflects the customer's perception of specific dimensions of service: responsiveness, reliability, trust, empathy, tangibles. Satisfaction, on the other hand, is more inclusive: it is influenced by perceptions of serving quality, merchandise quality, and price as well as situational factors and personal factors. As online retailing grows, service quality has become an increasing vital factor in determining the success or failure of e-retail businesses by influencing consumers' online shopping experience (Yang, 2001). Thus, delivering quality in service has shown to be an important strategy for sellers who are attempting to distinguish their service offering and fill client needs (Ozment and Morash, 1994).

Both concepts of customer satisfaction and customer retention have become increasingly significant subjects for e-business. A satisfied customer is more likely to remain with the same fellowship and effective loyalty building strategies enable e-business to grow in size and population. One way of enhancing customer satisfaction and increasing customer loyalty is through offering superior e-service quality. Furthermore, Service quality frequently evaluated in terms of five dimensions such as reliability, responsiveness, tangibility assurance and empathy using the SERVQUAL scale. But the electronic delivery of retail services differs in many ways from traditional 'Brick and mortar'. Online services have unique characteristics that offline service do not possess, which can affect the perception of service quality.

4. Review of literature :

In the light of grown consumer marketplace at an exponential rate as well as technology at the same rate has increased many times the capacity of online companies to improve the quality of their services. Just as the E-Retailing created many exciting new opportunities, it also introduced many new questions that warrant careful study. Many researchers have been conducted regarding different issues relating to service quality.

Collier and Bienstock (2006) proposed and empirically tested that combines process, outcome and recovery dimension. The study found formative indicators and the three-dimensional approach to conceptualizing e-service quality and it seems apparent that e-service quality is more than just the interaction of the customer with website. The study concluded that how the process quality of an e-service experience plays a crucial role in the overall evaluation of e-service quality. Result of the finding suggested that customer evaluating the process of placing an order by evaluating the design, information accuracy, privacy, functionality and ease of use of a website

Kim and Lennon (2006) identified online service attributes that facilitates efficient and affective shopping, purchasing and delivery based on the modified E-S-QUAL scale and to evaluate the extent to which current online retailers provide such service attributes as an objective measure of service performance. After that Swaid and Wigand identified that Key dimension of e-commerce service quality are website usability, reliability, responsiveness, assurance and personalization and second is the customers satisfaction is influenced mostly with the perception of reliability, while customer loyalty is affected by the perception of assurance third is customer retention is predicted by customer satisfaction index.

San et.al (2010) studied the relationship between reliability/prompt responses, attentiveness, and perceived ease of use, access and security towards perceived online service quality. The result showed that reliability/ prompt responses, ease of use and access are significantly correlate with perceived online shopping service quality and Sadeh identified seven dimensions of website quality which included research facility, provides detail information, privacy and security, interaction facilities and contents, speed and facility of assess, reliability and up to date information.

Sita et al (2013) studied the behaviour of online consumer in India in terms of internet usage, perceived risks, and website attributes influencing online users and the influence of perceived risks on intent to do online purchase in future. The Results showed that Indian online users had high levels of perceived risks, highest fear being related to the delivery of products purchased online.

Information quality product range and after online sales service are most preferred website attributes which influence Indian online users.

Pratminingsih et al (2013) revealed in his empirical study that satisfaction, trust and commitment have significant impact on student loyalty toward online shopping. **Nsairi et al** (2013) examined the key determinants of satisfaction in an online shopping context and their consequences on loyalty. The findings revealed that the effect of website environment on perceived value is supported and that some dimensions of perceived value influence online customer satisfaction. Moreover, satisfaction has a positive influence on loyalty while computer anxiety has a negative influence.

5. Objective and Research Method :

To study the determinants of e-retail service quality convenience sampling is used to collect data from individuals who could reasonably interpret the E-retailing, hence in the present study those individuals have been included who are educated and exposed to online shopping. The survey has been conducted via email and face-to-face interviews. A total of 500 survey questionnaires had been sent out, of which 452 questionnaires were received. Each of the responses received has been screened for errors, incomplete or missing responses. Efforts have also been taken to contact the affected respondents through e-mail for clarification and corrections, especially for missing or blank responses. After the screening process carried out, only 452 responses have been considered complete and valid for data analysis.

6. Analysis :

The factor analysis technique was applied on responses of respondents with regard to twenty two variables related to the e-retail service quality and six factors were extracted. The respondents were asked to rate twenty two variables/statements, on five point Likert scales, which ranged from strongly satisfy to strongly dissatisfy.

6.1. Scale Development :

A scale was developed to identify the factors affecting service quality in e-retailing. The literature for the same was consulted as shown in literature survey. The variables were selected based on literature support and in consultation with professional in the field of service quality. Total 22 variables were selected to find the perceptions of the respondents toward e-retail service quality. These items were to be rated on a five point Likert scale by the respondents.

6.2 Scale Refinement

Item wise reliability analysis was performed on selected variables to for developing a reliable scale. For the purpose of reliability assessment of unidimensionality, reliability and validity have been done. Hence, based upon these concepts the scale generated for present objective was refined and purified. Moreover the Inter item correlations and Cronbach's alpha statistics were employed to carry out the scale reliability analysis and to know extend to which items were correlated with the rest of the items in a set of items under consideration. The results are shown in Table 1 as follows:

Table 1 : Scale Reliability Analysis (E service quality in e-retailing)

	Initial	Extraction	Mean	Std. Deviation	Corrected Item-Total Correlation
ER3	1.000	0.785	3.004	1.454	0.401
ER4	1.000	0.586	3.621	1.170	0.509
ER5	1.000	0.650	3.289	1.225	0.665
ER6	1.000	0.534	3.641	1.280	0.538
ER7	1.000	0.571	3.752	1.144	0.648
ER8	1.000	0.799	3.546	1.149	0.593
ER10	1.000	0.736	3.517	1.239	0.488
ER11	1.000	0.737	3.486	1.349	0.570
ER12	1.000	0.605	3.011	1.302	0.621
ER13	1.000	0.757	3.121	1.320	0.545
ER14	1.000	0.649	3.455	1.428	0.561
ER15	1.000	0.665	3.376	1.321	0.612
ER16	1.000	0.630	3.327	1.323	0.525
ER18	1.000	0.537	3.252	1.484	0.429
ER20	1.000	0.790	2.780	1.181	0.574
ER22	1.000	0.599	2.716	1.420	0.606
ER25	1.000	0.761	3.130	1.413	0.515
ER26	1.000	0.793	3.342	1.301	0.554
ER28	1.000	0.586	3.150	1.349	0.566
ER29	1.000	0.602	2.949	1.335	0.566
ER30	1.000	0.597	3.119	1.309	0.642
ER31	1.000	0.721	3.057	1.301	0.659

6.3 Reliability validity and unidimensionality:
The cronbach's alpha of scale is .841 (Table 4) which is a good indicator to go further on as the value of the cronbach's alpha coefficient of 0.6 and above is good for research in social science (Cronbach, 1990). Moreover the corrected-item-total correlation > 0.5 and inter-item correlation is more than 0.3. Here, it is pertinent to mention that corrected-item-total correlation > 0.5 and inter-item correlation >0.3 is good enough for reliability of the scale (Hair et al., 2009). The significance for communalities using principal component analysis ranged from .595 to .815. Here, it is pertinent to mention that communalities >0.5 is sufficient for the explanation of constructs (Hair et al., 2009). All these values show factors analysis has extracted good quantity of variance in the items. Thus, all the requirements of reliability and validity are met.

Table 2 : KMO and Bartlett's Test

6.4 Correlation Coefficients

Correlations of all variables with each other were analysed using Pearson Correlation coefficients. Correlations among different items were quite satisfactory and were also significant. The correlation matrix is computed as shown in Table 3.

Table 3 : Inter- Item correlation

	ER3	ER22	ER28	ER29	ER30	ER31	ER4	ER8	ER10	ER18	ER20	ER25	ER26	ER7	ER14	ER15	ER16	ER11	ER12	ER13	ER5	ER6
ER3	1.0																					
ER22	.467	1.0																				
ER28	.432	.455	1.0																			
ER29	.408	.435	.556	1.0																		
ER30	.426	.466	.506	.450	1.0																	
ER31	.395	.470	.478	.551	.531	1.0																
ER4	.118	.213	.194	.301	.295	.388	1.0															
ER8	-.073	.273	.213	.348	.214	.367	.495	1.0														
ER10	-.078	.222	.220	.197	.224	.256	.527	.578	1.0													
ER18	.023	.255	.137	.239	.305	.306	.369	.440	.462	1.0												
ER20	.338	.433	.281	.328	.452	.323	.378	.110	.436	.321	1.0											
ER25	.221	.563	.300	.309	.411	.349	.166	.212	.186	.187	.435	1.0										
ER26	.093	.399	.298	.255	.399	.359	.289	.216	.306	.242	.518	.614	1.0									
ER7	.379	.386	.342	.260	.324	.313	.301	.455	.391	.220	.284	.261	.291	1.0								
ER14	.145	.338	.350	.196	.361	.417	.258	.311	.268	.082	.167	.261	.255	.487	1.0							
ER15	.015	.257	.175	.252	.290	.298	.330	.549	.357	.374	.270	.212	.270	.543	.556	1.0						
ER16	.221	.325	.259	.211	.227	.170	.164	.273	.160	.258	.282	.294	.347	.463	.429	.472	1.0					
ER11	.201	.242	.184	.312	.306	.231	.273	.300	.369	.269	.384	.179	.238	.392	.347	.404	.372	1.0				
ER12	.187	.269	.303	.307	.322	.339	.380	.348	.376	.319	.323	.214	.232	.362	.428	.382	.390	.583	1.0			
ER13	.440	.305	.289	.283	.203	.318	.165	.171	.143	.171	.309	.160	.127	.313	.329	.320	.318	.623	.487	1.0		
ER5	.425	.339	.421	.322	.550	.469	.411	.377	.170	.224	.326	.314	.359	.504	.414	.314	.329	.253	.425	.392	1.0	
ER6	.205	.136	.365	.277	.298	.239	.214	.304	.255	.145	.234	.227	.270	.344	.280	.278	.413	.408	.480	.452	.575	1.0

There is a sufficient correlation to go forward with factor analysis. Factor analysis is performed with varimax rotated, Principal Component Analysis. The scale reliability has also made for factors, so classified. The results are shown in the Table 4.

Table 4 shows the factor analysis of the twenty two variables; this analysis extracted six factors from the variables. Each factor was defined by at least two scale items. *Kaiser-Meyer-Olkin (KMO) Measure of Sampling Adequacy (MSA)* value of .825 is adequate enough for validating factor analysis results. Here, it is pertinent to mention that KMO>0.6 and p<0.5 are good enough for research in social sciences (Hair et al., 2009). The *Bartlett's Test of Sphericity* also has a value of X^2=9.658, DF =276. All these requirements are adequate for validating factor analysis. The six factors classified using the factor analysis is shown on the Table 4. All the factors having loading more than 0.4 are considered and the loading ranged from .766 to .624. The six factors so generated have Eigen values ranging from 10.287 to 1.072. All these requirements are sufficient for validating factor analysis. The six factors classified using the factor analysis is shown in the Table 5.

Table 4 : Rotated Component Matrix

Code	Statements	Factors					
		1	2	3	4	5	6
ER3	Have relevant and accurate Emails' responses	.745					
ER28	Handle quickly to a consumer complaint.	.709					
ER31	Has an acceptable return policy	.704					
ER29	Sends e-mail and messages for special offers frequently	.703					
ER30	Offer fair Compensation for problems Orders from this e-retailer	.603					
ER22	Orders are protectively packaged when delivered	.595					
ER13	Website performs the service right the first time		.766				
ER11	Provide a confirmation of items ordered.		.729				
ER6	Have order cancellation and return policy		.657				
ER12	Order tracking details are available till delivery		.639				
ER14	Security policy is accessible			.747			
ER15	Websites contain company details			.728			
ER7	Purchasing from the websites will not cause financial risk			.657			
ER16	Online payment is safe			.625			
ER4	Websites are visually pleasing.				.735		
ER10	Able to see the graphics clearly on e-retailer's Web site.				.731		
ER8	Website designs are innovative				.673		
ER26	Websites load its page quickly.					.815	
ER25	The websites are be well organised					.741	
ER20	Websites completes a transaction quickly					.624	
ER17	Has service representatives online						.661
ER18	Have a toll free call number						.651
Alpha		**0.841**	**0.786**	**0.766**	**0.794**	**0.795**	**.730**
% Var		**14.968**	**11.574**	**11.572**	**11.076**	**10.100**	**7.303**
Eigen Value		**8.312**	**2.234**	**1.778**	**1.357**	**1.276**	**1.026**

6.5 First factor (Responsiveness)

The first factor alone has explained 14.968% of the total variation in the factor analysis*. It includes six factors i.e. Have relevant and accurate Emails' responses, Handle quickly to a consumer complaint, Has an acceptable return policy, Offer fair Compensation for problems Orders from this e-retailer , Orders are protectively packaged when delivered , Sends e-mail and messages for special offers frequently*. Responsiveness refers to an ability to deal effectively with complaints and rapidity of the service (Santos 2003). According to Janda et al. (2002), customers expect Internet retailers to answer to their inquiry promptly. Prompt responses help customer resolve their problems and make decision in a timely fashion. Additionally, the Web-based customers want to find desire information quickly. The factor loading ranges from .745 to .595. The inter item correlation ranges from .147 to .556 and item to total correlation ranges from .380 to .623. It covers 8.312 of the Eigen values.

6.6 Second factor (Reliability)

Four variables load on second factor which is labelled as **Reliability.** Items included in this factor are*: Website performs the service right the first time, Provide a confirmation of items ordered, Have order cancellation and return policy, Order tracking details are available till delivery*. Santos (2003) refers to reliability as the ability to perform the promised service truthfully and consistently, including frequency of updating the web site, prompt reply to customer enquiries, and exactness of online purchasing and billing. This factor has explained 3.801% of the total variation in the factor analysis. The factor loading ranges from .766 to .639. The inter item correlation ranges from .413 to .413 and item to total correlation ranges from .291 to .498. It covers 2.234 of the Eigen values.

6.7 Third factor (security)

Factor third is correlated with another four variables is ***security***. According to Davis and Benamati (2003), security is a set of procedures, techniques, and safeguards designed to protect hardware, software, data, and other system resources from unauthorized access, use, modification, or theft. Security is a growing trouble on the Internet and troublesome for administrators who are in charge with sensitive and commercial data. The factor loading ranges from .747 to .625. The inter item correlation ranges from .295 to .556 and item to total correlation ranges from .457 to .601. It covers 1.778 of the Eigen values.

6.8 Fourth factor (Website design)

The fourth factor loaded with another three variables. This factor can be labelled as **Website design.** In the virtual environment of e-service, the tangible elements should be focused on the website design as it constitutes the main access to organizations and to a successful purchase process. The insufficiency of website design can result in a negative impression of the website quality to the customers, and customer may exit the purchase process. The factor loading ranges from .735 to .673. The inter item correlation ranges from .330 to .578 and item to total correlation ranges from .458 to .546. It covers 1.357 of the Eigen values.

6.9 Fifth factor (Ease of use)

The fifth factor loaded with another three variables. This factor can be labelled as ***Ease of use*** refers to a consumers' belief that no effort will be required to use a system; the effort includes both physical and mental effort and how easy it is to learn and use the system (Davis,1989). The dimension of ease of use included characteristic such as *easy to learn, controllable, clear and understandable, flexible, easy to become skilful, and easy to use*. This factor has explained 4.815% of the total variation in the factor analysis. The factor loading ranges from .815 to .624. The inter item correlation ranges from .487 to .623 and item to total correlation ranges from .504 to .590. It covers 1.276 of the Eigen values.

6.10 Sixth factor (Personalisation)

The sixth factor loaded with another two variables. This factor can be labelled as ***personalisation.*** Personalization is becoming more important to online service quality. *Giving customers special attention, understanding the specific needs of customers, and providing service related to convenience can be considered as personalization*. The factor loading ranges from .661 to .651. The inter item correlation ranges from .329 to .618 and item to total correlation ranges from .453 to .530. It covers 1.026 of the Eigen values. The seventh factor loaded with another two variables.

6.11 Sem for Factors Affecting e-retail Service Quality

Structural equation modeling, which includes measurement model and path analysis, is an efficient way to uncover the causal associations between constructs and their underlying measurement suitability. Amos software with maximum likelihood estimation (ML) is used to implement SEM. Confirmatory factor analysis is employed to test the reliability and validity of the questionnaires after collecting the questionnaires. The loading factor values of each manifest variable are higher than 0.6 (the suggested threshold value is 0.6 (Bagozzi & Yi (1988)), indicating that internal consistency and convergent validity are good; composite reliability (Construct reliability) and the Cronbach's á value of each construct are higher than 0.8, also the average variance extracted of each construct is greater than 0.5, indicating good reliability.

Table 5 : Fit Indices and Guidelines for Model Analysis (service quality of e-retailing)

For the overall evaluation of the measurement, multiple fit indexes are reported in Table 6 from which we can see that the model is reasonably consistent with the data, with all the fit indexes better than the recommended values.

Path Analysis:

In the following part an attempt has been made to reveal the results of path analysis conducted using a Structural Equation Modeling technique.

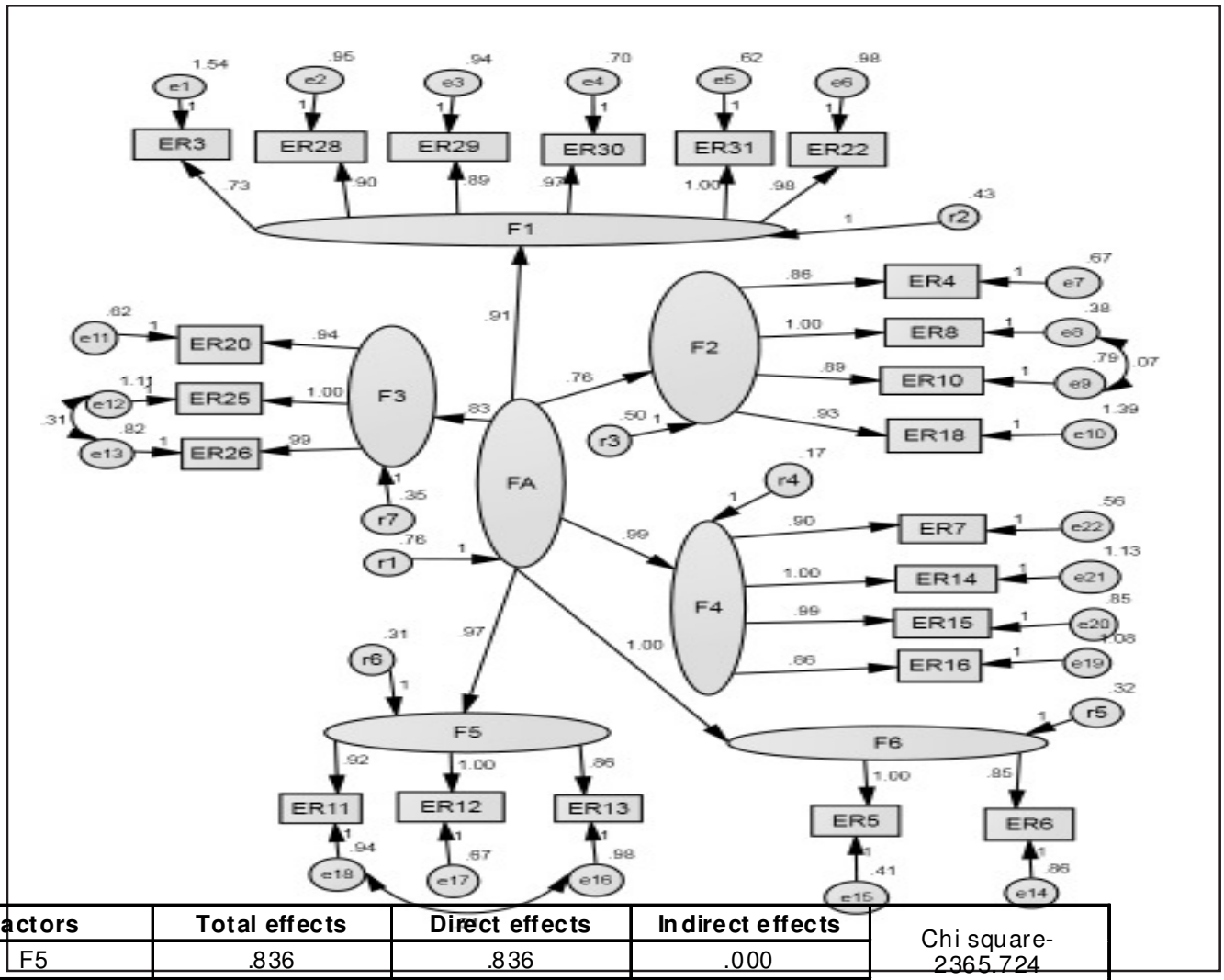

Figure: Structural Relationships of Perceptual Factors and Consumer's Perceptions/Attitude toward Cookies Issue in E-Marketing

F1- Responsiveness **F2**- Reliability **F3-** Security **F4**- Website design
F5- Ease of use **F6-** Personalisation

Factors	Total effects	Direct effects	Indirect effects	
F5	.836	.836	.000	Chi square-2365.724 DF-1.168 RMR=.044 GFI=.958, AGFI=.946, TLI=0.978, NFI=0.942
F6	.839	.839	.000	
F3	.774	.774	.000	
F2	.687	.687	.000	
F4	.904	.904	.000	
F1	.774	.774	.000	

Table 6 : Effect Estimates for Factors Affecting e-Retail Service Quality

7. Discussion of Results :

The values for various fit indices, chi-square, level of significance and effect of factors/items on e-retail service quality are shown in Table 6 & 7. The results in figure show that path loading on ***Responsiveness*** (coded-F1) factor ranged from .73 to 1.0. The path loading of 1.0 for *acceptable return policy* and 0.98 for *Orders are protectively packaged* show that these items play a more important role for this construct as compared to other items. According to Janda et al. (2002), customers expect Internet retailers to response to their inquiries promptly. Timely responses help customer resolve their problems and make decision in a timely. Moreover, the Web-based customers want to find desire information quickly and accurately.

The path loading on ***reliability*** (coded-F2) factor has the range from .86 to 1.00. There are four items in this factor with significantly loaded. The maximum loading is for *Website designs are innovative (1.0)* and *Have a toll free call number* (.93) showing the dominance of this factor. According to Zeithaml (2002), reliability is connected with the technical functioning of the site, particularly the extent to which it is available and functioning suitably. Santos (2003) refers to reliability as the ability to perform the promised service accurately and consistently, including frequency of updating the web site, prompt reply to customer enquiries, and accuracy of online purchasing and billing. Specifically, it involves: keeping records correctly; accuracy in billing; and performing the service at the designated time.

The ***security*** (Coded F3) factor has path loading from .94 to 1.00. The results show that the loading of *websites are be well organised* (1.00) played a more dominating role for this factor. All the loading is different and sufficient to explain this factor. According to Davis and Benamati (2003), security is a set of techniques, procedures, and safeguards designed to protect hardware, software, data, and other system resources from unauthorized access, modification, use, or theft. Security is a growing trouble on the Internet and troublesome for administrators who are in charge with sensitive and commercial data (Colin, 1999). Even though consumers like to shop online, unfortunately they are concerned about the security when they want to reveal their private and financial information.

The path loading on ***website design*** (coded-F4) factor has the range from .86 to 1.00. There are four items in this factor with significantly loaded. The maximum loading is for *Security policy is accessible (1.0)* and *Websites contain company details* (.99) showing the dominance of this factor. In the virtual environment of e-service, the tangible elements should be concentrated on the website design since it constitutes the main access to organizations and to a thriving purchase process. The absence of website design can result in a harmful impression of the website quality to the customers, and customer may exit the purchase procedure. Website is the starting point for customers to gain confidence. Thus website design should gather the various attributes like Appealing and well organized website, Quickly downloading Consistent, standardized navigation, and Well-organized appearance of user interface in order to attract customers to conduct purchasing online easily with good navigation and helpful information on the website.

The path loading on ***Ease of use*** (coded-F5) factor ranged from .86 to 1.0. The path loading of 1.0 for *Order tracking details are available till delivery* and 0.92 for *Provide a confirmation of items ordered* show that these items play a more important role for this construct as compared to other items. Ease of Use has been studied extensively in the context of IT adoption and diffusion and it is one of the key measures for user satisfaction, system adoption, or IS success (Moore and Benbasat 1991). Ease of use is defined as the degree to which a system is "user friendly". In the context of e-commerce, consumers may access the websites based on how simple they are to use and how effective they are in helping them accomplish their tasks (Zeithaml et al. 2002).

The ***personalisation*** (Coded F6) factor has path loading from .85 to 1.00. The results show that the loading of *websites are be well organised* (1.00) played a more dominating role for this factor. All the loading is different and sufficient to explain this factor. Personalization is becoming more important to online service quality. Giving customers personal attention, providing service related to convenience, and understanding the specific needs of customers, can be considered as personalization.

8. Limitations of the Study and Future Research Directions:

- The survey was confined to individual shopping behavior. Punjab and Chandigarh are being a collectivist State and UT, most of the shopping happens in a family set up. Consideration of family shopping behavior might take an interesting findings.
- The present study was cross-sectional in nature and given the corresponding drawbacks of the same, longitudinal studies should be conveyed in the future to prove the proposed model so as to re-evaluate directions of causality among the survey variables. As perceptions change over time, longitudinal research may be helpful.
- The sample for the present study comprised of 268 respondents. The sample is small proportion of the entire population of online consumers in the Punjab and Chandigarh. Thus, research studies with much bigger sample size would be commanded to ensure more generalized findings of the survey.

9. Conclusion :

With Internet and Web technologies, online customers can have unlimited access to the information they require and may enjoy a wider scope of choices in choosing products and services with highly competitive prices. So, it is generally not easy for online retailers to assume and sustain competitive advantages so "differentiating" service quality levels of the online retailers have gradually more become a central driving force in enhancing customers' satisfaction and inward turn in spreading out their customer bases. Service quality improvement initiatives should begin with defining the customers' requirements and preferences, and their related quality dimensions. If online retailers see what dimensions customers use to assess quality, they can take appropriate actions to monitor and enhance performance on those dimensions and remedy service failures. This work identified a sum of six key online service quality dimensions. Apparently, in parliamentary procedure to sustain a high degree of overall service quality, the online retailers should pay attention to all eight dimensions identified in this survey. Even so, to strengthen competitiveness in the exceedingly competitive market, given limited organizational resources, it is recommended that the online retailers focus particularly on four

dimensions, responsiveness, functionality, serviceability and ease of use, in lodge to reach high levels of consumers' perceived overall service quality and their satisfaction simultaneously. For online retailers, the six service quality dimensions identified in this research provide useful information on which areas the online retailer should focus on to improve online shopping service quality.

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Human Resource Development Climate in Banks

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Abstract

Today the banking sector is playing a vital role in the development of economy of any country. Being an industry, performance is highly dependent on the skill and competencies of employees. So it is very important to study on human resource development climate. Human Resource development climate study assesses its subcomponents like General climate HRD mechanism and OCTAPAC culture. General climate is support of top management for development of employees .HRD mechanism encompases within itselfare training and development, performance appraisal ,potential appraisal, career planning. Rewards and employee welfare practices, and OCTAPAC culture means openness, confrontation, trust, authenticity, proactivity, autonomy and collaboration etc. The study reveals that there exists an average HRD climate in banks.

Key points – HRD climate, HRD mechanism and OCTAPAC culture

1. Introduction :

According to Prof. T. V. Rao (1987), HRD is a process, by which the employees of an organization are helped in a continuous and planned way (1) acquire or sharpen capabilities required to perform various functions associated with their present or expected future roles (2) develop their general capabilities as individuals and discover and exploit their own inner potentialities for their own and organizational development purposes- (3) develop an organizational culture in which superior subordinate relationships, team work and collaboration among sub units are strong and contribute to the professional wellbeing, motivations and pride of employees. HRD may be defined as development of people by providing the right convergent where each individual may grow to his fullest potentialities. It is the total knowledge, skill, creativity, ability, talent and aptitude of an organization's work force as well as the values, attitudes and belief of the people involved. Yussof and Kasim (2003) revealed that the role of HRD is crucial, in promoting and sustaining growth and in particular education and training, contributes significantly to economic development in terms of increased worker productivity and income. The economy becomes more productive, innovative and competitive through the existence of more skilled human capability. Yorks (2005) defined HRD as both an organizational role and a field of professional practice. The fundamental purpose of HRD is to contribute to both longterm strategic performance and more immediate performance improvement through ensuring that organizational members have access to resources for developing their capacity for performance and for making meaning of their experience in the context of the organization's strategic needs and the requirement of their jobs. According to Schmidt (2007), Training is one of the most important functions that directly contribute to the development of human resource. Training is a set of planned activities on the part of an organization to increase the job knowledge and skills or to modify the attitudes and social behavior of its members in ways consistent with the goals of the organization and the requirement of the job. Mohamad *et al*. (2009) research found that incentives are positively related to organizational performance, but did not moderate the relationship between both human resource development and organizational performance.

2. HRD Climate- A Review of Literature :

Mishra & Bhardwaj (2002) carried out a HRD climate survey in a private sector undertaking in India and concluded that the HRD climate in that organization was good.

The study conducted by Hassan, Hashim & Ismail(2006) to compare between ISO and non-ISO certified companies to find out the relationship of ISO certification and HRD system. The study was conducted in eight organizations, four of them were ISO certified and the questionnaire designed with four mechanisms like career system, work planning system, self renewal system and HRD system. They found that ISO certified companies obtained higher mean on some HRD variables and also

found that the quality orientation was predicted by developmental mechanism like career planning, performance guidance and development, role efficacy and reward and recognition system

Krishnaveni & Ramkumar in their study (2006) titled "Impact of developmental climate on individual's behavior in organizations" found that HRD Climate is positively associated with the level of role satisfaction of individuals in the organization.

M. Srimannarayana (2009) conducted a study in Human Resource Development in manufacturing sector and found that OCTAPAC culture has been more prevalent than HRD Mechanisms and general HRD climate and a moderate HRD climates has been prevalent in the organizations surveyed. He suggested that the organization may introduce fair employee welfare programmes and reward systems to improve employee satisfaction levels and subsequently to gain advantage from the satisfied workers to increase productivity

Mariyappan(2010) made a study on HRD climate in Erode District Co-operative Milk Producers Union Ltd. in Tamilnadu under NDDB and tried to analyse the impact of HRD climate on job satisfaction and concluded that HRD climate was influenced by multi-dimensional climatic factors in general. The study emphasized on top management role by practising developmental mechanism to enhance the physical, mental and emotional capabilities of employees for creating and maintaining a productive HRD climate.

Benzamin & David(2012) in their study conducted in Nigerain banks, focusing on influence on HRD climate of employees attitude for organizational commitment and found that the HRD climate positively correlates with employee commitment, especially the affective component. The study also found that OCTAPAC culture has influence create positive organisation culture.

Mohanty & Sahoo(2012) carried out Human Resource Development climate survey in IT industry in India and concluded that the moderate HRD climate was prevailing in the IT organizations. The study also revealed that among the components of HRD climate, OCTAPAC culture was found more prevalent than the HRD mechanism and general climate.

Mittal(2013) conducted a comparative study on HRD climate in public and private sector banks and found that HRD climate of public sector bank was better than the private sector bank .

3. Objectives and Scope of Study :

- To study the extent of HRD climate prevailing in banking sector.
- To study the best component of HRD climate prevailing in Banks

The study is limited to three leading public sector banks and three leading private sector banks that have regional training centers in Bhubaneswar.

4. Research Method :

An empirical study based on descriptive research design was undertaken with the help of a structured questionnaire to study the HRD climate of executives in banking sector. Sample Organizations were State Bank Of India, Allahabad Bank, Uco Bank, HDFC Bank, Axis Bank and ICICI Bank. The Questionnaire was developed by Rao and Abraham (1986) at centre for HRD, XLRI, India. It consists of 38 questions on a 5 point scale ranging from 5 (Always almost true) to 1 (Not at all true). 300 usable responses have been received. The data were analyzed quantitatively using mean score with the help of SPSS.

Table 1: Statements of General Climate

Sl. No	Statement	Mean	Std. Deviation	Analysis N
1	The top management of this organization goes out of its way to make sure that employees enjoy their work.	3.03	1.124	300
2	The top management believes that human resources are an extremely important resource and that they have to be treated more humanly.	3.62	1.036	300
3	Development of the subordinates is seen as an Important part of their job by the managers/officers here.	3.50	.927	300
4	The personnel policies in this organization facilitate employee development.	3.36	1.078	300
5	The top management is willing to invest a considerable part of their time and other resources to ensure the development of employees.	3.35	.979	300
6	Senior officers/executives in this organization take active interest in their juniors and help them learn their job.	3.43	1.047	300
7	People lacking competence in doing their jobs are helped lo acquire competence rather than being left unattended	3.34	.931	300
8	Managers in this organization believe that employee behavior can be changed and people can be developed at any stage of their life.	3.63	1.022	300
9	People in this organization are helpful to each other	3.58	1.026	300
10	Employees in this organization are very informal and do not hesitate to discuss their personal problems with their supervisors.	3.04	1.212	300
11	The psychological climate in this organization is very conducive to any employee interested in developing himself by acquiring new knowledge and skills.	3.38	1.048	300
12	Seniors guide their juniors and prepare them for future responsibilities/roles they are likely to take up.	3.63	.995	300
13	The top management of this organization makes efforts to Identify and utilize the potential of the employees.	3.54	.989	300
	OVERALL	**3.418**	**1.032**	**300**

To assess the general HRD climate prevailing in banks 13 items were identified from the questionnaire. By calculating responses of employees the mean score is 3.418 on a five points scale. So it shows that average general HRD climate is prevailing in Banks under study. The top management believes that human recourse is extremely important resource and they should be treated more humanly (3.62) .Managers believe people can be developed at any stage of their life (3.63). Seniors guide their juniors and prepare them for future responsibilities they are likely to take up.

Table 2 : Statements of HRD Mechanisms

For assessing HRD Mechanism 15 items were identified from the questionnaire. Analysis of responses indicates that moderate HRD mechanism is prevalent in the Banks. The overall mean score on job rotation in this organization facilitate employee development is 3.70, In the banks there is reward system for any good work done or any contribution made by employees (Mean score: 3.60) Also employees take feedback seriously and implement for their development (mean: 3.57)

Table 3: Statement of OCTAPAC Culture

Sl. No	Statement	Mean	Std. Deviation	Analysis N
1	People trust each other in this organization	3.70	.915	300
2	Employees are not afraid to express or discuss their feelings with their superiors	3.44	.971	300
3	Employees are not afraid to express or discuss their feelings with their subordinates	3.40	1.047	300
4	Employees are encouraged to take initiative and do things on their own without having to wait for instructions from supervisors	3.12	.926	300
5	Delegation of authority to encourage juniors to develop handling higher responsibilities is quite common in this organization	3.43	.924	300
6	When seniors delegate authority to juniors, the juniors use it as an opportunity for development	3.50	.934	300
7	Team spirit is of high order in this organization	3.76	.942	300
8	When problems arise people discuss these problems openly and try to solve them rather than keep accusing each other behind the back	3.43	1.021	300
9	Career opportunities arc pointed out to juniors by senior officers in the organization	3.65	.907	300
10	'The organization's future plans are made known to the managerial staff to help them develop their juniors and prepare them for future	3.57	.988	300
	OVERALL	**3.5**	**0.9575**	**300**

For assessment of OCTAPAC culture 10 questions are used from questionnaire. The OCTAPAC shows culture like openness, confrontation, trust, autonomy, proactivity, authenticity and collaboration. By data analysis of employees it reveals that team sprit within the organization is high ie (Mean :3.76) The overall OCTAPAC culture in the organization under study is moderate i.e. (Mean:3.5).

5. Conclusion :

HRD is about the advancement of knowledge, skill, competencies and improved behavior of people both for the personal and professional use. Well developed and well implemented HRD systems are integral to company's strategic plan and beneficial to both the employee and the company. HRD facilitate competitive advantage by helping the organisation cope with major organizational changes driven by increasing the competitive market and turbulent business environments. it is not only training for operational skills but also includes behavioral skills as it ultimately aim to create an enabling culture where in the capabilities are "acquired, sharpened and used". Organizational climate as a relatively enduring quality of a organisation's internal environment. It distinguishes from other organisations in terms of behavior and policies services. The ultimate goal of human resource development in any country to improve the quality of life of its entire people. HRD is used as supporting business strategy.It is found that moderate HRD climate was prevailing in the banks. It is also found that OCTAPAC CULTURE is more prevalent than HRD MECHANISIM and GENERAL HRD CLIMATE in the banks.

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Knowledge Management and Organisational Performance in the context of E-Knowledge

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Abstract

Competitive organisations must be able to locate, capture, store, share and leverage not only data and information but also the knowledge of the firm. However, if the majority of information needed for decision-making exists in the minds of employees, a system is needed to capture and codify this knowledge. The paper addresses this within the context of how decision support systems, Artificial Intelligence and Information Technology can aid the transformation process of knowledge.

The emergence of new technologies has increased the ability of organisations to share knowledge, not just internally, but with external stakeholders. E-knowledge networks allow their participants to create, share and utilise strategic knowledge to improve operational and strategic efficiency and effectiveness. The proposed e-knowledge network will evaluate and deploy these technologies to enable inter-organisational knowledge sharing. In addition, the implications of inter-organisational knowledge sharing on the supply chain are considered for business process improvement.

Keywords: Knowledge Management, Business Performance, Data warehousing, e-Knowledge

1. Introduction :

Organisations have always realised that access to quality information and knowledge will help them remain competitive. However, with the advent of rapidly changing business environments, managers are now realising they need to develop an effective knowledge strategy and provide employees with best available knowledge to support the decision making process.

Data warehousing initiatives, utilising various data mining techniques, have found common place in many business infrastructures for supporting the decision making process. However, as the vast majority of knowledge exists in the minds of employees, the quality of support these provide, especially for intensive queries, is somewhat uncertain (Nemati, Steiger et al. 2012). Therefore, new systems are required that not only locate, capture, store, share and leverage data and information, but also knowledge.

Knowledge management has recently become a fashionable concept, although many organisations are still unable to explain what knowledge is. More importantly, they are unable to develop and leverage knowledge to improve organisational performance. This is due to organisations becoming increasingly more complex in structure, resulting in knowledge that is fragmented, hard to locate, leverage, share and difficult to reuse (Zack 2010).

The paper focuses on the explication of knowledge and technology that can contribute to provide in capturing, coding, retrieval, sharing and leveraging of different forms of knowledge, as well as different types of knowledge, across an organisation. It raises a number of questions. What is explicitly codified knowledge and how should it be managed? What role can technology play? How should an organisation's resources and capabilities be configured? The goal of these questions is to provide the decision-maker with a suitable analysis platform for decision-making that enhances all phases of the intra-organisational knowledge management process.

2. Knowledge Management :

Knowledge that supports the decision making process is an obvious vital resource, however, knowledge has often suffered from under management in the past. It is only in recent years that knowledge has been taken more seriously. This no doubt resulted from a poor understanding of what knowledge is and from a lack of provision, in terms of guidelines and frameworks, for managing it.

Knowledge: Most definitions and explanations of knowledge seem to cover the same vocabulary, concepts and words. Rather than provide a standard definition, the paper addresses the general themes and fundamentals that have become evident in recent years.

(1) Knowledge goes through a process of sharing tacit with tacit knowledge, tacit to explicit, explicit leverage, and explicit back to tacit. (2) Knowledge can be created and tested. (3) Knowledge can be distinguished from data and information. (4) Explicit knowledge is usually filtered, stored, retrieved and dispersed across the organisation. (5) A culture that does not foster and reward the sharing of knowledge cannot expect technology to solve its problems (Srinivas 2012).

Tacit knowledge is subconsciously understood and applied, difficult to articulate and usually developed from immersing oneself in an activity for an extended period. Explicit knowledge can be easily communicated to others through a system of language, symbols, rules, equations and objects. It consists of quantifiable data, written procedures, mathematical models etc. Explicit knowledge is the most important for organisations; imagine an organisation with no computer software or procedural documentation.

The Knowledge Transformation Process: As stated earlier, knowledge goes through a transformation process, which can be facilitated through the utilisation of Decision Support Systems (DSS), Artificial Intelligence (AI). The paper covers the main area of focus, the explication of knowledge, with further detail of this transformation process to be found in the following reference (Nemati, Steiger et al. 2012). DSS are IT and software specifically designed to help people at all levels of the company, below the executive level, make decisions. DSS can play an important role in the transformation process of explicating knowledge, for example, through the specification of mathematical modelling. Specifically, the goal of these models, and of the decision variables, must be explicitly articulated by the decision-maker. Furthermore, the decision- maker must also explicitly articulate the model constraints. This specification of explicit knowledge "represents the tacit knowledge the worker has developed over time, within the decision-making environment" (Nemati, Steiger et al. 2012).

DSS can further enhance the explication of knowledge by "eliciting one or more what-if cases, representing areas the knowledge worker would like to investigate" (Nemati, Steiger et al. 2012). In effect, the tacit knowledge of historical decisions is transformed into explicit form, to be shared and leveraged for improved decision making.

Once this knowledge has been transformed and stored, it can be leveraged by making it available to others when and where they need it. (Nemati, Steiger et al. 2012) suggests that "explicit knowledge stored in the form of instances of a mathematical model (what-if cases) can be leveraged via deductive and/or inductive model analysis systems". Model-specific knowledge is applied to a single instance of a model, addressing such questions as "why is this the solution?" "why do the solutions to two model instances differ so much?".

DSS can also help workers to learn, i.e. the process of converting explicit knowledge to implicit knowledge. Known as internalisation, this process involves the "identifying bodies of knowledge relevant to the particular user's needs" (Warkentin, Sugumaran et al. 2013). It involves extracting knowledge and filtering it to match a particular problem against the body of knowledge. Internalising explicit and/or new knowledge may arise through a decision- maker modifying his/her internal mental model that is used as his/her performance guide for a specified situation (Nemati, Steiger et al. 2012).

If tacit knowledge has the potential to be explicated but cannot be articulated, it represents an opportunity lost to utilise that knowledge for enhancement of the decision making process. Competitors who are able to achieve this task may gain a competitive advantage (Zack 2010). This knowledge may remain tacit due to the organisation possessing no formal model or language for its articulation. In contrast, inherently inarticulable knowledge that organisations attempt to articulate may have a detrimental effect on organisational performance, as this knowledge may ultimately be lost. Tacit knowledge is an extremely important resource as it underpins the decisions workers make for a given situation. Failure to manage it properly will lead to a loss of knowledge and failure to benefit from the experience of others.

Although explicit knowledge represents a fraction of an organisation's intellectual assets, it is apparent it plays a crucial role in the knowledge strategy of an organisation. Zack (Zack 2010) suggests that "appropriately explicating tacit knowledge for sharing and reapplication is the least understood aspect of knowledge management". However, organisations must not shy from this process as the balance between tacit and explicit knowledge can impact the competitive performance of an organisation. Organisations should therefore focus on determining which knowledge to make explicit and which to remain tacit. Providing a suitable set of guidelines for managing this knowledge is the key to success for any knowledge management initiative.

3. Inter-Organisational Knowledge Sharing :

The paper has so far discussed how knowledge can be managed to support decision-making within an organisation. We will now discuss how the emergence of new technologies can enhance an organisation's relationship with its stakeholders. The final part of the paper will address how new technology, specifically web-enabled, can enhance the utilisation and leveraging of knowledge, for inter-organisational knowledge sharing. We examine the way organisations are restructuring internal and external relationships, and creating "e-knowledge networks", existing in a virtual environment, to facilitate the communication of data, information and knowledge.

Much like an intra-organisational knowledge warehouse, the combination of knowledge networks and the Internet effectively create one, whole virtual repository, allowing all participants to create, share and use strategic knowledge to collaboratively improve operational and

strategic efficiency and effectiveness. The primary focus of this integrated, virtual community is centred on the explicit knowledge contained in the repository, rather than the providers, decision-makers or the tacit knowledge they may hold (Zack 2010).

In addition to capturing, storing and retrieving information, an organisation must be able to lever this information to specific processes and unknown situations. Specific contextual knowledge must be fully exploited to reflect the full range of organisational knowledge, as it can provide significant opportunities for competitive advantage.

A community of practice is defined as "an informal group where much knowledge sharing and learning takes place" (Merali, Davies 2012). The vice president of Xerox describes such communities as "peers in the execution of real work. What holds them together is a common sense of purpose and a real need to know what each other knows"(Verna 2014a). In essence, the group acts like an informal network, with each participant sharing a common agenda and interest. The importance of these networks becomes apparent when individuals attempt to elicit information from others who do not share common interests and agendas. "Communities of practice and social networks highlight the importance of the link between social capital and knowledge resources" (Merali, Davies 2012).

Most knowledge management initiatives attempt to capture information relating to specific user profiles and queries. However, "the bigger challenge is to capture and reuse knowledge that is generated during knowledge work" (Merali, Davies 2012). Although DSS can effectively manage this created knowledge in a number of ways (refer back to 2.1) Merali (Merali, Davies 2012) suggests that the majority of knowledge created through this process generally tends to remain private. This is due to the following: (1) "A lack of context within which to articulate individual learning" (Merali, Davies 2012). (2) "The amount of time and effort required to analyse and record what has been learnt" (Merali, Davies 2012). (3) "Articulating particular types of knowledge may not be culturally legitimate, challenging what the organisation knows may not be socially or politically correct" (Zack 2010). (4) "Making private knowledge public may result in a redistribution of power that may be resisted in organisational cultures" (Zack 2010).

Communities of practice are seen as a means to overcome these barriers to knowledge sharing. We now discuss how e-knowledge networks, supported by the Internet, can enable the creation of a "virtual community of practice" (Merali, Davies 2012).

Inter-organisational systems are "networks of company systems that allow organisations to share information and interact electronically across organisational boundaries" (Warkentin, Sugumaran et al. 2013), the common medium being the Internet. Organisations are now adopting a fresh approach to knowledge, that is, "knowledge equals power, so share it and it multiplies" (Verna 2014b). Their aim is to increase efficiency and speed of response in rapidly changing markets and improve an organisation's relationship with its stakeholders (Walsham 2011).

E-knowledge networks are formed through the combination of knowledge management and inter-organisational systems. The adoption of the Internet has provided a platform for the continuous and unattended exchange of information and knowledge about markets, customers, demand, inventories and so forth. These platforms enable the sharing of valuable knowledge, often created through technologies such as decision support systems, intelligent agents and data warehouse technologies, with their strategic partners, thereby enabling improved organisational effectiveness. One such example of intelligent agents is the Jasper II system, comprising intelligent software agents that "retrieve, summarise and inform other agents about information considered to be of value to a Jasper II user" (Merali, Davies 2012).

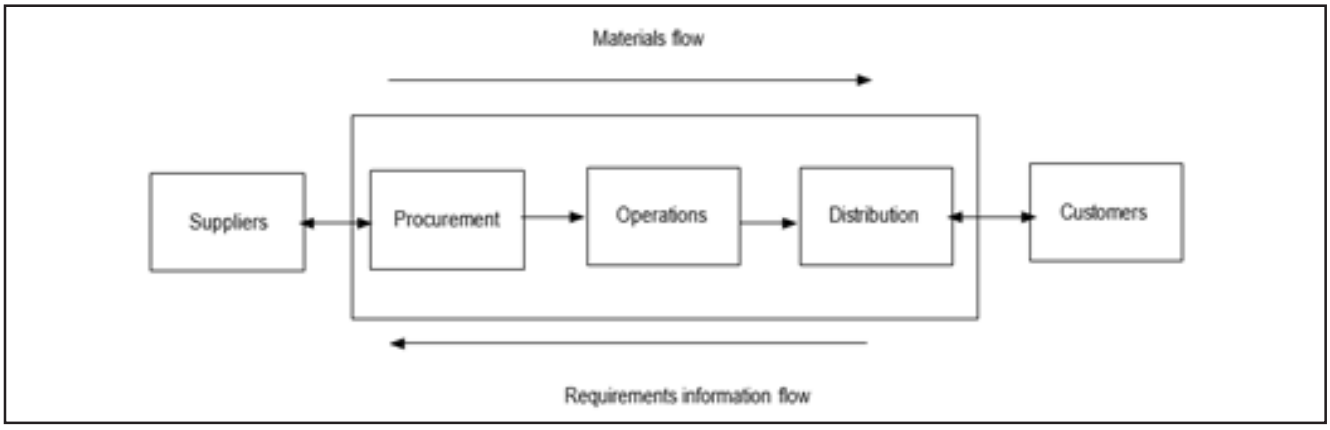
It is quite apparent organisations need to be flexible and be able to identify exploitable situations. These goals can be achieved by implementing electronic systems that generate immediate knowledge (real time) about internal functions and processes, customers, markets, supply chain partners, vendors and dealers (Warkentin, Sugumaran et al. 2013). Furthermore, a strategic relationship should provide access to different sources of knowledge, not duplicates of this knowledge (Day, Schoemaker, P. J. H. et al. 2014). Such systems allow organisations to be dynamic and flexible, allowing rapid changes in their strategies and activities. Organisations can use this knowledge to create new internal and external structures and relationships, leading to further improvements in knowledge, leading to further strategic improvements.

4. E-Knowledge Networks for Business Improvement :

We will discuss one long-term alliance, suggested by Warkentin (Warkentin, Sugumaran et al. 2013), as a trend likely to develop from implementing strategic e-knowledge networks in the context of supply chain. The supply chain process involves organisations acquiring resources and providing goods or services, (Johnson, Scholes 2014). Progressive supply chain management aims to improve the co-ordination "across the supply chain to create value for customers, while increasing the profitability of every link in the chain" (Warkentin, Sugumaran et al. 2013). It is this co-ordination aspect that addresses the role of shared knowledge, enabling the analysis and management of all supply change activities. In other words, according to Choi et al. (Choi, Budny et al. 2015) the supply chain involving knowledge is referred to as knowledge supply chain and in this context they define knowledge as technologies, inventions and know-how that helps businesses bring products to markets. The material flow is the physical flow of material and the knowledge flow is like the flow of technique that connects the parts together. Figure 1 illustrates a material flow in a typical supply chain. It shows how material moves from supplier to customers' and at every stage a value is added to the material, whilst,

a network generates value not just through goods, services and revenue, but also through knowledge. Knowledge becomes a medium of exchange in its own right, with success dependent on building a rich web of trusted relationships. The supply chain network proposed by Warkentin (Warkentin, Sugumaran et al. 2013) is extended to emphasise the creation of a value network for a complex e-business environment. In support of this trend towards e-networks, additional focus has been given to the implications on the value chain. Verna (Verna 2014b) states "the traditional view of value chain is outdated by the new enterprise model of the value network".

Figure 1: A Typical Supply Chain



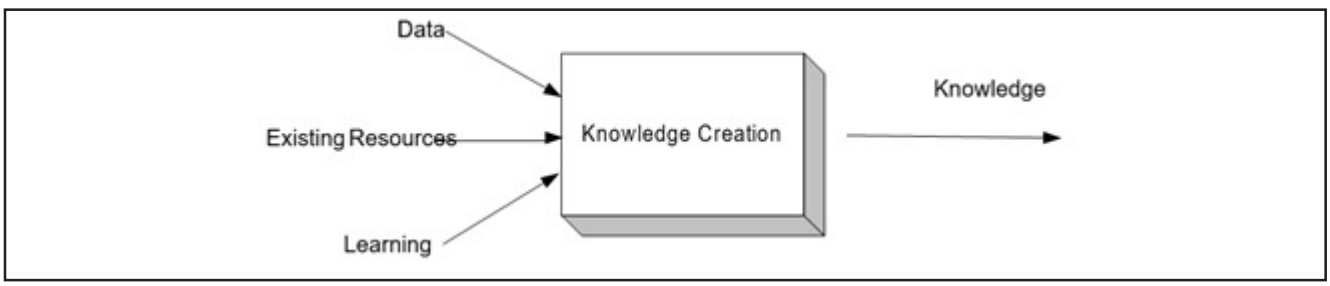
Before the introduction of the Internet, the traditional view of the supply chain was that of inefficient communication and allocation. Information flowed in a linear fashion, either upstream or downstream. In addition, a further drawback was the lack of connection to one's customers, as organisations were forced to communicate through wholesalers, distributors and retailers. Dispersion of information beyond one link in the supply chain was inhibited through a lack of formal relationships. Furthermore, the "information flow through linkages was constrained due to a lack of standard data representation schemes, therefore, the sharing of information beyond immediate supply chain partners was impossible" (Warkentin, Sugumaran et al. 2013).

The traditional view of knowledge was to hoard it and If organisations were to share this valuable information, a competitive edge would be lost (Verna 2014b). However, the consensus among new economy organisations is to provide an open environment for the sharing of information. Organisations are encouraged to work "in close co-ordination to optimise the flow in the entire supply chain" (Warkentin, Sugumaran et al. 2013)

The concept of the e-supply chain proposes a new relationship between suppliers, partners and customers as well as integration of processes, information systems and inter-organisational problem solving (Manthou, Vlachopoulou et al. 2015). The e-supply chain is the backbone of a virtual network, linking each participant as one cohesive unit. The chain comprises a series of value-added stages, starting with the supplier and ending with the consumer. The focus of the e-supply chain is on the bi-directional flow of information, each stage is a supplier to its adjacent downstream stage and a customer to its upstream stage. Each participant is therefore able to assume many roles within the supply chain, but the ultimate relationship comes down to a supplier and a customer role.

Traditionally, demand information passed through many layers, with each layer degrading the quality of information. The variances in this information caused poor production scheduling and inefficient resource allocation, resulting in excessive inventory throughout the chain (Warkentin, Sugumaran et al. 2013). In contrast, the e-supply chain proposed by Manthou (Manthou, Vlachopoulou et al. 2015) utilises information and knowledge as a substitute for inventory, competing on agility and speed and viewing customer collaboration as a competitive, strategic asset. Figure 2 illustrates the creation of knowledge in an organisation. Here, it is argued that a typical organisation is closed loop i.e., it can acquire knowledge through external factors only. But it must be emphasized that effectively managing and retrieving the existing knowledge - which could be in the form of data and expert's knowledge - should be the main focus.

Figure 2: Knowledge Creation



Knowledge creation would ensure by helping the organisation in identifying skill gaps or knowledge gaps between what an organisation has as a whole and what it may need to face new challenges. It would also make it easy to identify what areas an organisation should either focus on or outsource its activities to. It must be emphasized that just leveraging knowledge in an organisation may not be enough because of the dynamic and ever changing world we are in. And so, this should be complemented by inculcating a learning environment by fostering and rewarding individuals. The key to a successful organisation is how effectively it brings together the skills it possesses.

The resulting fresh flows of strategic supply chain knowledge lead to new strategic relationships in the e-marketplace. These flows may represent "knowledge created by analytical processes conducted by automated data mining algorithms" (Warkentin, Sugumaran et al. 2013). What is most significant about e-knowledge networks is that they permit fresh inter-organisational information and knowledge flow, effectively facilitating management of the supply chain. However, if an organisation is to gain maximum benefit from these newly created flows of information and knowledge, they must use it strategically.

5. Conclusion :

The motivation of this paper is to draw attention to important issues of technology in capturing, codifying and disseminating knowledge throughout the organisation. It reflects the need to store not just different forms of knowledge, but different types of knowledge. However, it should be remembered that an overemphasis on technology might force an organisation to concentrate on knowledge storage, rather than knowledge flow. New insights and opportunities are available to organisations if they are able to integrate knowledge across shared and different contexts.

The Internet has enabled the creation of virtual communities, networked through technologies only available just a few years ago. As the Internet is becoming the standard form of collaboration between organisations, the trend of the e-knowledge network looks set to continue. While technology can greatly enhance an organisation's knowledge management strategy, it does not necessarily ensure an organisation is managing its resources and capabilities in the right way. However, technology is vital to enable the capturing, indexing, storing and distribution of knowledge across and with other organisations. Knowledge can be viewed in a number of other contexts; it is vital each are addressed if an organisation is to improve performance.

Successful knowledge strategies depend on whether organisations can link their business strategy to their knowledge requirements. This articulation is vital to allocating resources and capabilities for explicating and leveraging knowledge.

The competitive value of knowledge must be addressed to assess areas of weakness. Strategic efforts should be made to close these knowledge gaps to ensure the organisation remains competitive. The strategic value of knowledge should be addressed, focusing on the uniqueness of knowledge.

Finally, an organisation should address the social aspects affecting knowledge initiatives, namely cultural, political and reward systems. Beyond the management roles proposed in the paper, the environment should promote co-operation, innovation and learning for those partaking in knowledge based roles.

Knowledge is more than a fad; it is now at the centre of an organisation's strategic thinking. The essence of any knowledge management strategy can be summed up by quoting, (Drucker 2001) who said "A company's key to success resides not so much in its work and capital as in the capacity to treat knowledge, corporate knowledge, be it explicit or tacit."

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A Study on Perception of Customers and Bankers towards Service Quality in Public Sector Banks in Odisha

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Abstract

Banks are facing increased competition due to globalization, technological advancement and consumer awareness about their rights.This phenomenon has put the banks to rethink and revise the service quality, especially in the growth and development of service sector. Service quality is an important factor that affects organizational performance and success.Ultimate survival of the bankin a competitive world depends on high quality service it offers to its customers. This also increases customer satisfaction and loyalty and customer satisfaction can effects customer's future intentions to remain with the bank.Servicequality was also found to be the basic factor that affects customers' satisfaction and customers are the most important stakeholders in any industry.Service Quality is a buzz word to the banks to sustain in the competitive environment.Numerous studies were conducted word-wide to identify the determinants of service quality and customersatisfaction by using different instruments likeSERVQUAL and modified SERVQUAL. Few studies wereconducted in India to understand the gap between the customers' and bankers' perception towards service quality offered by Banks. The main purpose of the studywas to examine the customers' and managers'perception towards service quality of Banks. Here SERVQUAL has been used with little modification because to fit to the modern banking industry for which it is being used. Hence,the parameters used in this study for customer survey are tangibility, assurance, reliability, responsiveness, empathy alongwith e- Banking.

Keywords: *Customer, banker, perception,PSU banks, SERVQUAL,and e-banking*

1. Introduction :

Now with the overgrowing rise of economy in India, the banking system should not only be hassle freebut it should also be competitive to meet the new challenges posed by the technology and other environmental (both external andinternal) factors.The competition from global banks andtechnological innovation has compelled the banks to rethinktheir policies and strategies.Companies have shifted their focus from product to customer. Better the banks understand theircustomers; the more successful they will be in meeting their needs(Khanna and Kaushal, 2013). The key to building a competitive advantage is theability of a bank to deliver highqualityservices that meet the needs and expectations of customers (Ennew and Waite, 2007).Banks that excel in quality service can have a distinct marketing edge since improvedlevels of service quality are related to higher revenues and higher customer retention(Abdullah, 2010).Service quality is defined as the perception of customers toward the service element of a product (GoeldnerandRitchie, 2006). Edvardson (1998) defined quality as satisfying needs and meeting expectations of customers,employees and owners. Therefore, knowing the various expectations and needs of these three groups andunderstanding they are shaped and change is important. He agreed that Service quality is often extremelydepended on the relationships between customers and employees. Employees are interested in performing thekind of service activities that they individually give worth and agree with. In result, a sense of job satisfactionwill be appeared by doing the activities and behaviors that they personally worth and take responsibility for.Several studies have provided a positive connection between job satisfaction and the perception of employees aboutservice (Chiang, 2011).The majority of researches on service quality have been conducted in the developed countries in the context of consumers. Fewstudies have been undertaken in the developing countries like India; where most them have beendone on the customer perception of service quality. Hence,there exists a dearth of researches on managers' perceptiontowardsservice quality. Therefore, this study aims at fulfilling the gap that exists in the current researches on bankers' perception of consumer expected services.

2. Banking in Odisha:

The economic development of particular region coincides with the development of banking network in that area. The role of well developed financial infrastructure in stimulating and sustaining economic growth is well

recognized in earlier studies. There were only 14 bank branches in Odisha in 1949, serving 9.91 lakh populations per branch on an average;whereas 1.19 lakh at the National level. The concentration of bank offices were in larger towns rather than smaller towns and rural areas further highlighted the lopsided and haphazard spread of banking facilities in Odisha. Till the formation of State Bank of India in 1955, hardly any steps were taken by the banks to expand the branch network in Odisha. But now according to Odisha Economic Survey Report (2014-15)the average population serviced by a bank branch in the State is about 12,000, which is better than that in many other states in India. About 80 percent of all bank branches are located in rural and semi-urban areas. One positive outlook of the sub-sector is that the growth rate of total bank deposits in the state is rising. Odisha is catching up with the nation in terms of per capita bank deposits in commercial banks. Co-operative banks mainly focus on the Agriculture sectorin rural areas.The vast network of financial institutions helps the economy to augment its savings and channel them towards efficient utilization by the corporate world. There has been a phenomenal growth and spread of banking services throughout the country, particularly in rural areas after nationalisation. Commercial banks have been directed to open new rural and semi-urban branches and have shouldered the responsibility for mobilizing public savings.At constant prices (2004-05), the banking and insurance sector expects to contribute 11.33 percent of GSDP of the Service Sector and a real growth rate of 12.13 percent in 2013-14 in Odisha over the previous year. The sector recorded a robust annual average growth rate of 16.51 percent in last 10 years between 2004-05 and 2013-14 in real terms. During 11 five year plan (2007-12) and first two years of 12 plan (2012-14) its annual average growth rates remain extremely impressive with 17.77 percent and 12.57 percent respectively in the state. If one defines “bank-density” as the ratio of population of the state to the total number of bank branches or the average population serviced by a bank branch, it is roughly equal to a population of 11,190;whereas commercial bank density is about 12,284. Odisha has improved its commercial bank density from 16,000 in 2001-02 to 12,284 by the end of March, 2014 and fares better than several other states of India including Rajasthan, West Bengal, Madhya Pradesh, Utter Pradesh and Bihar(Odisha Economic Survey Report 2014-15).

3. The Concept Of Service Quality:

The importance of service quality, as key strategic value, is increasingly being recognized byorganizations in both the manufacturing and service sectors. Different researchers havedefined service quality in different ways. According to Gronroos (1984), service quality isthe outcome of an evaluation process, where the customers compare their expectations withthe service they have received. While Bitner et al. (1994) defined service quality as ‘theconsumer’s overall impression of the relative inferiority/superiority of the organisation andits services’. Other researchers such as Cronin & Taylor (1994) view service quality as a formof attitude representing a long-run overall evaluation; while Parasuraman et al. (1985) definedservice quality as ‘a function of the differences between expectation and performance alongthe quality dimensions’.

Adlaigan&Buttle (2002)reported that Gronroos (2003) has been consistent about the assumed dimensionality of service quality, which is based on customers’ perception of service encounter and consider three dimensions:

- Functional quality of the service process is concerned with how the services are provided to the customers.
- Technical quality is concerned with outcome of the exchange process i.e. what is received by customers.
- The image of the service provider is concerned with general perception of customers about supplier.

Parasuraman, Zeithaml and Berry (1985) considered that a customers’ judgment towards service quality is based on the gap between the expected quality of services and perceived service. There was however little understanding of the differences between the concept of quality in the manufacturing industry and the concept of quality in the service industry. Service industry has several important characteristics that differentiate it from manufacturing in terms of quality. These characteristics include; intangibility, heterogeneity, inseparability and Perishability.

4. Review of Literature:

Success of a bank depends directly on the bank’s ability to capture and retain clients, as well as on intensity of relationships with clients. Bank employees are the key instrument to enhance value of products and services perceived by customers (Croxford et al. 2005). So, it is extremely important to determine factors affecting bank value perceived by customers, and to examine the gaps in perceptions of customers and employees. Employee-centric service organizations are more likely to achieve superior performance, because ultimately the production and delivery of service quality is dependent on the employee’ attitudes and skills (Vella et al. 2009). A lot of managers have a complete confidence that company’s performance depends on effective work of its front office (Coveney et al. 2003). Employees play a crucial role in creating value through increasing efficiency (El-Bannany, 2008). The researchers from McKinsey & Company conducted a survey among the customers of European banks (Beaujean et al. 2006). Over 85% of satisfied customers increased their investments or started using more of bank’s offered products. Conducting another research in the field, they found that loyal bank customers typically generate, over the life of their relationship with an institution. Loyal customers not only buy more products than their counterparts but also tolerate higher banking charges (Beaujean et al. 2005).Johnson (1996) conducted an employee opinion survey in the banking sector on front line employee (FLE) performance in delivering service quality. At the same time, a customer

survey was conducted to measure customer satisfaction with the service. The research results showed a low level of correlation between employee and customer perceptions of service quality indicating that employees and customers did not share the same views on service quality issues. In the same vein, Yavas (2006) carried out an employee-customer survey to measure quality perceptions of both employees and customers in a banking services context. The items were the same for employees and customers. The research findings showed that these two groups did not use the same attributes to evaluate service quality.

Researchers in this field either apply the SERVQUAL measurement as such (Ladhari 2009; Cronin and Taylor, 1992) or modify it slightly (Jabnoun and Al-Tamimi, 2003). This preference for the SERVQUAL attributes can mainly be explained by the scale's reliability but also because it was first tested in the banking sector. SERVQUAL has been criticized by different authors for diverse reasons, such as the operationalization of prospect, the reliability and validity of the instrument's difference score formulation and the scale's dimensionality across disparate industrial settings (Sureshchandar, Rajendran and Kamalanabhan, 2001). For instance, Llosa et al. (1998) showed that the two dimensions of tangibles and empathy are well understood by customers;whereas reliability, assurance and responsiveness are quite confusing for them.Many researchers have used the dimensions of SERVQUAL as the foundation of their research, and therefore SERVQUAL has unquestionably had a key impact on the business and academic communities (Buttle, 1996). It has been said to be insightful and to remain a practical framework to use in service quality management(Christopher, Payne & Ballantyne, 2002,Khurana2010). A survey was conducted in Hissar district in India, with a sample of 250 respondents who had at least one savings account in a private sector bank by usingthe SERVQUAL (Parasuraman et al., 1985, 1988, 1991) to understand the quality of services offered by the banks. Descriptive statistics (mean and paired t-test) was used to evaluate the level of service quality of Indian private sector banks from the customers' perspective. The study found the service quality gap by comparing customers' expectations and actual perceptions andanalysed customers' satisfaction towards the various service provided by private sector banks. The results of the study also indicated that the overall service quality provided by the private banks was below customers' expectations.

5. Objectives and Methodology:

This study is based on a customer survey conducted in different public sector banks operating inOdisha. The main objective of the study is to assess the quality of services provided by the Public sector banks in urban, semi-urban and rural areas of Odisha; and further to studythe gap that exists between the customers' and bankers' perception towards quality of services offered by Banks.Primary as well as secondary data were collected for the study. The theoretical foundation of the study is based on various secondary sources such as books, research publications, articles, magazines, and published paperson service quality. A cross sectional field has been designed for conducting the study. The mostly primary data are collected through structured Questionnaires. Two questionnaires have been framed for the purpose, one for the customers and the other for the bankers. The respondents were required to record their perceptions and expectations of the service of the respective public sector Banks Odisha. The study includes the customers of 5 leading public sector banks operating in Odisha, namely;Bank of India (BOI), State Bank of India (SBI), United Commercial Bank (UCO), Punjab National Bank(PNB), and United Bank of India(UBI). In the course of collection of data, bank branches in urban area,semi- urban area and rural were visited.Initially the questionnaires were distributed among the respondents selected at random in few pre-identified branches of above public sector banks in selected areas. With lot of persuasion and follow up only 386 (302 customers and 84 managers) completely filled-in the questionnaires were received and considered for the present study. Here SERVQUAL instrument was also used with little modification to fit to the features of modern banking industry. The parameters used in this study for customer survey are tangibility, assurance, reliability, responsiveness, empathy along withe-Banking. The questions used for collection of data are close-ended measured with a 7-point Likert scale from very poor to very good (1=very poor, 2=poor, 3=slightly poor, 4= average, 5=slightly good, 6=good, 7=very good).

7. Data Analysis and Interpretation:

The data collected from the field were analyzed by using various descriptive statistics and presenting the data based on various demographic profiles. Table 1 presented below shows the distribution of respondents across selected banks.

Table-1: Bank-wise Respondent Profile

Banks	Customers		Managers	
	f	%	f	%
BOI	62	20.53	23	27.38
SBI	74	24.50	19	22.62
UCO	42	13.91	14	16.67
PNB	50	16.56	10	11.90
UBI	74	24.50	18	21.43
Total	302	100	84	100

Sources: Field data

It is observed from the Table 1 that out of the total respondents, 302 are customers and 84 are managersindicating that the larger portion of respondents consists of customers. Out of the totalcustomers, 62 customers have their account inBOI, 72 customers have their account inSBI, 42 customers have their account in PNB, and 74 customershave their account in UBI. The results indicate that the majority of customers have their accounts ineither SBI or UBI as they have a better branch network in Odisha.Out of the totalmanagers, 23 managers (27.38%) arefrom BOI, 19 managers (22.62%) arefrom SBI, 14 managers (16.67%) arefrom UCO, 10managers (11.9%) arefromPNB and 18 managers (21.43%) arefrom UBI. The results show that majority of managersare from BOI and SBI.

Table - 2: Gender-wise Respondent Profile

Sources: Field data

Table 2shows the distribution of customers and management by gender. Out of386, there were 297males (76.94%) and 89 females (23.06%). Out of the totalcustomers,234 are male (77.48%) and 68 are female (22.52%). The representation of the females (22.52%) is smaller in the sample as less number of women in Odisha are working and having bank accounts. So far, the financial matters are male dominated.In management perspective out of 84, 63 are male (75%) and 21 are female (25%). It indicates that the major portion of customers and managers by gender consist of male.

Table - 3: Area-wise Respondent Profile

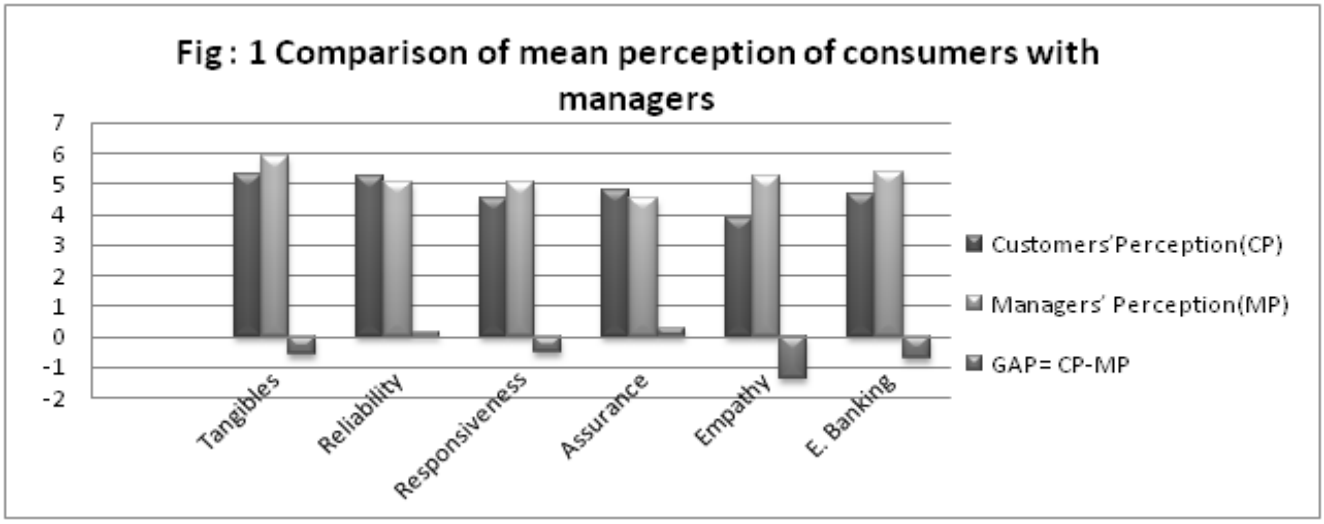
Area	Customers		Managers		Total	
	f	%	f	%	f	%
Urban	66	21.85	25	29.76	91	23.58
Semi-Urban	130	43.05	39	46.43	169	43.78
Rural	106	35.10	20	23.81	126	32.64
Total	302	100	84	100	386	100

Sources: Field data

Table 3 shows the distribution of respondents by area.Out of the total customers, 66 belong to urban areas (21.85%), 130 belong tosemi-urban areas (43.05%) and rest 106 belong torural areas (35.10%). Out of the totalmanagers, 25 managers (29.76%) are from urban branches, 39 managers (46.43%) are fromsemi-urban branches, 20 managers (23.18%) are fromrural branches. Thus major portion of respondent in terms of managers arefrom semi-urban branches.

Table- 4: Comparison of meanperceptionof consumerswith managers

Sources: Field data



Sources: Field data

Table 4 depicts the mean score of perceptionof customers and managers with regard to six service quality dimensions of banks. In tangibility dimension of service quality meanof customers' perception is5.32 whereas mean ofmanagers' perception is 5.89; which show the difference between the perceptions of both the respondents. It is also observed from Table 4 that in reliability dimension themeanof customers' perception is 5.21; whereas the mean scorefor the managers' perception is 5.07. In responsiveness dimension, the mean score of customers' perception is 4.53 on the contrary managers' perception is 5.02. In assurance dimension of service quality; the mean of customers' perception is 4.8, whereas managers' perception is 4.53 but in empathy dimension meanof customers' perception is 3.89 but managers' perception is 5.25. Similarly with regard to e-banking dimension of service quality;meancustomers' perception is 4.68 but managers' perception is 5.4. Results specify that customers' perception mean scores in all dimensions of service quality except reliability and assurance dimensions are low in comparison to mean scoresof managers' perception. In service quality dimensions like tangibles, responsiveness, empathy, e-banking, etc.; the gap between customers' perception and managers' perception are, -0.57, -0.49, -1.36 and -0.72 respectively; which means customers' perception towards the service quality offered by public sectors banks of Odisha does not match with perceptionof managers'. Results indicate that managers have a strong perception regarding the provisions of above service quality dimensions but customers disagree to them. From Table 4.it is observed that in reliability and assurance dimensions of service quality the gaps between customers' perception and managers' perception are 0.14 and 0.27 respectively; which shows that meanof customers' perception is higher than managers' perception. This indicatesthat customers have agreed to the fact that banks are providing service quality in a better way but according to managers in these dimensions of service quality banks are lagging behind in providing service up to the expectations of their customers.

8. Conclusion:

Results indicate that there is a significant difference between the perception of customers and managers. Managers have a constant perception about the service quality but the opinioncustomers show a discrepancy according to the nature of services. Analysis of views of themanagers on the dimensions like tangibility, assurance, reliability, responsiveness, and empathyalong withe-bankingof service quality of their respective banks are providing them in a better way. Opinion ofCustomers revealed that banks are providing service quality but not as managers said. Most of the customers are dissatisfied about the service quality of their banks but at the same time managershave given greater scores than customers which mean there exist a service quality gap between the perception of customers and managers. Customers' responses give a clear picture of service quality in all sub-scales which need higher attention of the bank managers to achieve the competitive edge in a competitive environment.Generally speaking, evaluating service quality brings better understanding of various dimensions that affect all service quality process which results in both the better allocation of resources and services.

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