A Study on the Impact of Service Quality towards Customer Satisfaction of the Stock Brokers in Coimbatore District, Tamilnadu

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ABSTRACT

The study was done with a purpose to find out the investors perception on service quality of stock brokers in Coimbatore. In particular, the major objectives of the study were to measure service quality for stock brokers in Coimbatore and to identify service gap. This study was also to help to ascertain the factors influencing investor's satisfaction towards service quality. The service quality is measured using the following attributes such as Reliability, Tangibles, Assurance, Responsiveness and Empathy. These factors were framed with a structured questionnaire. Descriptive research design is used for the study. The research was conducted in Coimbatore city through convenient sampling method, the study sample size was 100 respondents from Coimbatore. The collected data were analyzed using SPSS software package and the tools applied were like Correlation. The findings revealed that the majority of the investors are new generation investors and they operate both primary and secondary market. Most of the investors have 3 to 5 years in experience in share market. From the study it is found that there is a relationship between these service quality factors and level of satisfaction. Stock Brokers want to improve their research reports accuracy because investors are investing huge money based on the research call.

Keywords: Service Quality, Investor Satisfaction, Stock Brokers, Etc.,

1. INTRODUCTION

In the Indian scenario, savings is the habitat of every

human being. An Investor starts their investment from the safety to higher returns. Investors are so keen to earn more returns out of their investment. Capital market plays a significant role in the investment. Capital market is the place where the investors expect a higher return with a risk factor. The Investor will always have the aim to attain the maximum return by minimizing the risk to the extent possible. The stockbrokers play a major role in the investment into the stock market. This article says about the Quality of service rendered by the stockbrokers which lead to customer satisfaction and brings loyalty to the firm.

Over the last two to three decades, service quality, customer satisfaction, customer perceived value and buyer behavior intention have been ongoing research areas in universal marketing literature (Lee Yik-Chee et al., 2010; Boulding et al., 1993; Caruana and Msida, 2002; Durvasula et al., 2003/2004; Ladhari, 2008; Tam, 2004; Rust and Oliver, 1994).

Compared to the focus of much of the literature, financial services, including Stock broker, are more composite than other services and deserve more in detail attention. This study addresses a substantive topic of high significance to customers (financial services) which has been almost "completely neglected in marketing research" (Lee Yik-Chee et al., 2010; Martenson, 2008).

1.1 SERVICE QUALITY

Parasuraman Identification dimensions and qualitative factors are the ways to measure service quality in the way of construction (Alireza Rajabipoor Meybodi,

2011; McNealy, 1994 and Allan, 2003 & Brady, 2002). SERVQUAL model is one of the models through which the gap between service expectation and Service perception is analyzed and try to measure customer service quality. This model also is known as the gap analysis model (Alireza Rajabipoor Meybodi, 2011; Brooks, 1999). SERVQUAL model was developed by Parasuraman and Zeithaml (Alireza Rajabipoor Meybodi, 2011; Caruana, 2000).

1.2 CUSTOMER SATISFACTION

Customer Satisfaction refers to the extent to which customers are happy and satisfied with the products and services provided by a business (Marvin E. Gonzalez, 2017).

Customer Satisfaction (CSAT) is a metric used to quantify the degree to which a customer is happy with a product, service, or experience. This metric is usually calculated by deploying a customer satisfaction survey that asks on a five or seven-point scale how a customer feels about a support interaction, purchase, or overall customer experience, with answers between "highly unsatisfied" and "highly satisfied" to choose from. If you don't measure customer satisfaction, you can't identify unsatisfied customers that could churn or leave you negative customer reviews. You also can't identify happy customers you could activate as evangelists or referrers. Finally, you can't predict or prevent customer churn to plan proactively without metrics to analyze. (Sophia Bernazzani, 2018).

1.3 CUSTOMER PERCEPTION

Customer Perception is a marketing concept that tells us what customers think about a brand or a company or its offerings. It can be positive or negative feelings, perceptions, inhibitions, predispositions, expectations or experiences that a customer has. The characteristics of a brand and its personality play a big role (Hitesh Bhasin, 2017)

2. NEED FOR THE STUDY

As on-line trading has become increasingly popular, further research on two different market segments of on-line and non-online stock investors would be



meaningful in terms of service quality, particularly with Singapore becoming a global trading and communications hub (Hines, 2008).

More research is required in this field. A longitudinal dyadic study of broker customer relations would provide greater illumination than a survey, but would be harder to generalize due to a smaller sample. However it would be interesting to explore Behavioral intentions such as change of brokers and recommendations in more depth (Chee, Lee Yik, etal 2010).

Apart from on-line and non-online investors, there are two other different market segments of investors: customers of securities remisiers (Self-Employed Commission Brokers) used in this study and stock dealers (Salary Based Employees of licensed brokerage firms). Research on these segments would shed light on different perceptions, if any, of the customers of different categories of trading modes and service providers, along with the service quality and value of these different groups (Chee, Lee Yik, etal 2010).

Based on the review the researcher has selected to study about investors perception on service quality of online and offline traders in Coimbatore district. This study is carried to give suggestion to the Stock broker firms in Coimbatore about the expected service quality of investors and also gap between the investor and stock broker.

3. OBJECTIVES OF THE STUDY

- To ascertain factors influencing investors satisfaction towards service quality.
- To examine investors Buyer Behavioral Intention towards repeated service.

4. REVIEW OF LITERATURE

The results indicate that the higher the service quality, the more the customer's satisfaction. The Dimensions of service quality plays an important role in this equation. These dimensions are tangibility, responsiveness reliability, empathy, and security. Finally, the findings indicate that these five factors have positively affected the customer satisfaction. This

research also shows that the service quality is an appropriate tool to measure the quality of service in the banking sector in the Arab bank. Therefore, the banking sector practitioners regard this instrument a very important tool to evaluate, support, and improve the quality of their services (Dr. Abdel Fattah Mahmoud Al-Azzam, 2015)

More than 4/5th of the customers are satisfied about the range of services and quality of services provided by Karvy, but effort should be taken by Karvy to create better awareness about all its services to all customers and also for the prospectus. (Minu.M, Hariharan.R, 2015)

Satisfaction is purely based upon the investor's awareness towards share trading. When the investor gets more and more accurate information on the right time, then he/she can enjoy the taste of success from the share trading. The authorities should implement more training and awareness programmes for the investors (PV Durga Rao, et al 2013)

Results show that donor expectations and perceptions between investor's quality service brokerage offices in all areas, there are significant differences. Brokerage Managers, the models analyzed using the service quality, will be able to create gaps between the way the service provided, i.e., investors and agents known to the agency planned to strengthen and reform pay problems. (Alireza Rajabipoor Meybodi, 2011)

Customers who relied on brokers' advice perceived higher service quality. Brokers need more empathy with customers. Investors expect high quality service from brokers, particularly in terms of reliability. There was a 15 percent gap in service quality, and a 20 percent gap in service value. Customers who relied on brokers' advice perceived higher service quality. Brokers need more empathy with customers. SERVQUAL translated to Singapore stock broking customers with good reliability (Chee, Lee Yik, et al, 2010).

A Path Model shows that customer contact persons influence attitudinal and behavioral loyalty and that the impact is higher for high elaborators (higher



knowledge and motivation to process stock market information) than for low elaborators. This suggests that the role of the contact person differs for different customer groups, i.e. the notion of multiple roles for variables. (Rita Martenson, 2008)

Relationships of perceptions and expectations of service quality, Mean Service Adequacy (MSA) and Mean Service Superiority (MSS) with service satisfaction and loyalty are examined. Results indicate that the reliability aspect of service quality is strongly related to satisfaction and loyalty in the stockbrokerage industry, while the assurance aspect of service quality enjoyed a similar status in the life insurance industry. Results also confirm that while MSA and MSS both drive satisfaction and loyalty, perceptions of actual service have the strongest correlations with those behavioral outcomes. (Srinivas Durvasula, 2006). Research and managerial implications are discussed with respect to brokerage firms' strategies to more effectively manage service delivery and communicate to existing and potential clients. (Xiaohua Lin Phd & Benjamin Wei, 1999)

5. RESEARCH METHODOLOGY

Research is an art of scientific investigation. Research design is an arrangement of conduction for collection and analysis of data in a manner that aims to combine relevant to a research purpose with economy in procedure. Descriptive research design is used for the study. 100 samples are collected from investors at various stock broking firms through the structured questionnaire. Convenient sampling is used for the study. Correlation tool is used in the study to find the relationship between the level of satisfaction and SERVQUAL factors.

6. DATA ANALYSIS AND INTERPRETATION

6.1. Correlation Analysis for Level of Satisfaction and Tangibles

Null Hypothesis - H_0: There is no significance relationship between level of satisfaction and tangibles.

Alternative Hypothesis - H₁: There is significance relationship between level of satisfaction and tangibles.

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Correlation Analysis		Modern Looking Equipment.	Physical Facilities	Employees Appearance	Research Reports Associated With The Service Visually Appeals
Market	Pearson Correlation	.118	.162	.206*	.145
Updating Call	Sig. (2-tailed)	.241	.107	.040	.151
	Ν	100	100	100	100
Call and Trade	Pearson Correlation	192	.196	.054	.229*
	Sig. (2-tailed)	.056	.051	.596	.022
	Ν	100	100	100	100
Post Trade	Pearson Correlation	.125	.219*	.216*	.176
Confirmation	Sig. (2-tailed)	.216	.028	.031	.080
Call	Ν	100	100	100	100
Research Call	Pearson Correlation	.168	.126	.199*	.430**
and Research	Sig. (2-tailed)	.095	.211	.047	.000
Reports	Ν	100	100	100	100
Online Trading	Pearson Correlation	.201*	188	173	134
	Sig. (2-tailed)	.045	.061	.084	.184
	Ν	100	100	100	100
Stock Broker	Pearson Correlation	009	.023	.078	085
Арр	Sig. (2-tailed)	.930	.823	.439	.401
(Application)	Ν	100	100	100	100

Table. No. 6.1. Correlation Analysis for Level of Satisfaction and Tangibles

The above table.no.6.1 shows that the correlation analysis for level of satisfaction and tangibles. The calculated value of factor Market Updating Call on Employees appearance is 0.040. There is a significant relationship between Market Updating Call on Employees appearance. Alternative hypothesis is accepted.

The calculated value of factor Post Trade Confirmation Call on physical facilities is .028 and Post Trade Confirmation Call on Employees appearance is 0.031.There is a significant relationship between Post Trade Confirmation Call on physical facilities and Post Trade Confirmation Call on Employees appearance. Alternative hypothesis is accepted. The calculated value of factor Online Trading on Modern looking equipment is 0.045.There is a significant relationship between Online Trading on Modern looking equipment. Alternative hypothesis is accepted.

6.2. Analysis for Level of Satisfaction and Reliability

Null Hypothesis - H_o: There is no significance relationship between level of satisfaction and reliability.

Alternative Hypothesis - H₂: There is significance relationship between level of satisfaction and reliability

ABBS

Correlation Analysis		When Stock broker promise to do something by a certain time, they do so	When c ustomers have a problem, Stock broker shows interest in	When customers complain, Stock Broker performs the service right the solving it	Stock broker provides their services at their promises first time	Stock broker insists on error-free records
Market	Pearson Correlation	.353**	109	.036	.071	003
Updating Call	Sig. (2-tailed)	.000	.280	.720	.484	.975
	Ν	100	100	100	100	100
Call	Pearson Correlation	.062	.229*	.145	020	.046
and Trade	Sig. (2-tailed)	.539	.022	.150	.845	.648
	Ν	100	100	100	100	100
Post Trade	Pearson Correlation	.278**	.187	.355**	.141	.251*
Confirmation Call	Sig. (2-tailed)	.005	.063	.000	.162	.012
	Ν	100	100	100	100	100
Research Call	Pearson Correlation	.211*	.114	037	.196	.377**
and Research	Sig. (2-tailed)	.035	.259	.716	.051	.000
Reports	Ν	100	100	100	100	100
Online Trading	Pearson Correlation	.048	322**	035	101	109
	Sig. (2-tailed)	.636	.001	.731	.317	.281
	Ν	100	100	100	100	100
Stock broker	Pearson Correlation	.031	.215*	.101	.001	.074
Арр	Sig. (2-tailed)	.756	.031	.316	.990	.466
(Application)	Ν	100	100	100	100	100

Table.No.6.2. Analysis for Level of Satisfaction and Reliability

The above table. no. 6.2 shows that the correlation analysis for level of satisfaction and reliability. The calculated value of factor Market Updating Call on When Stock broker promise to do something by a certain time, they do so is 0.000. There is a significant relationship between Market Updating Call on When Stock broker promise to do something by a certain time, they do so. Alternative hypothesis is accepted.

The calculated value of factor Call and Trade on when customers have a problem, Stock broker shows interest in solving it is 0.022. There is a significant relationship between Call n Trade on when customers have a problem, Stock broker shows interest in solving it. Alternative hypothesis is accepted.

The calculated value of factor Post Trade Confirmation

Call on When Stock broker promise to do something by a certain time, they do so 0.005 and When customers complain, Stock broker performs the service right the first time 0.000 and Stock broker insists on error-free records 0.012. There is a significant relationship between Post Trade Confirmation Call on When Stock broker promise to do something by a certain time, they do so and when customers complain, Karvy performs the service right the first time and Stock broker insists on error-free records .Alternative hypothesis is accepted.

The calculated value of factor Research Call and Research Reports on When Stock broker promise to do something by a certain time, they do so is 0.035.There is a significant relationship between

Research Call and Research Reports on When Stock broker promise to do something by a certain time, they do so. Alternative hypothesis is accepted.

6.3. Correlation Analysis for Level of Satisfaction and Responsiveness

Null Hypothesis - H _o :	There is	no significance
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relationship between level of satisfaction and responsiveness

Alternative Hypothesis - H_3 : There is significance relationship between level of satisfaction and responsiveness.

Correlation Analysis		Employees of Stock broker communicates customers exactly when services are performed	Employees of Stock broker gives Prompt services to customers	Employees of Stock broker are always willing to help customers.	Employees of Stock broker responds to customers even in peak hours
Market	Pearson Correlation	.425**	.163	.180	041
Updating Call	Sig. (2-tailed)	.000	.105	.074	.686
	Ν	100	100	100	100
Call and	Pearson Correlation	.054	.359**	.091	.261**
Trade	Sig. (2-tailed)	.594	.000	.370	.009
	Ν	100	100	100	100
Post Trade Confirmation Call	Pearson Correlation	002	.357**	.132	.234*
	Sig. (2-tailed)	.986	.000	.190	.019
	Ν	100	100	100	100
Research Call	Pearson Correlation	.169	.129	.160	.271**
and Research	Sig. (2-tailed)	.093	.202	.111	.006
Reports	Ν	100	100	100	100
Online Trading	Pearson Correlation	.060	321**	239*	129
_	Sig. (2-tailed)	.554	.001	.017	.201
	Ν	100	100	100	100
Karvy App (Application)	Pearson Correlation	164	031	.193	.145
	Sig. (2-tailed)	.104	.761	.055	.151
	Ν	100	100	100	100

Table.No.6.3. Correlation Analysis for Level of Satisfaction and Responsiveness

The above table.no.6.3 shows that the correlation analysis for level of satisfaction and responsiveness. The calculated value of factor Market Updating Call on Employees of Stock broker communicates customers exactly when services are performed 0.000. There is a significant relationship between Market Updating Call on Employees of Stock broker communicates customers exactly when services are performed. Alternative hypothesis is accepted.

The calculated value of factor Call n Trade on Employees of Stock broker responds to customers even in peak hours 0.009. There is a significant relationship between Call n Trade on Employees of Stock broker responds to customers even in peak hours. Alternative hypothesis is accepted.

6.4 Correlation Analysis for Level of Satisfaction and Assurance

Null Hypothesis - H_o: There is no significance relationship between level of satisfaction and assurance.

Alternative Hypothesis - H_4 : There is significance relationship between level of satisfaction and assurance.

Correlation Analysis		The behaviour of employees of Stock broker are always instills confidence in customers	Customers of Stock broker feels safe to do transactions	Employees of Stock broker consistently courteous with customers	Employees of Stock broker are knowledgeable and skilled to answer customer queries
Market	Pearson Correlation	.166	052	.119	006
Updating Call	Sig. (2-tailed)	.099	.608	.239	.952
Ν	100	100	100	100	
Call and Trade	Pearson Correlation	.252*	056	.148	.161
	Sig. (2-tailed)	.011	.581	.141	.109
	Ν	100	100	100	100
Post Trade	Pearson Correlation	.119	.064	.215*	.208*
Confirmation	Sig. (2-tailed)	.239	.525	.032	.038
Call	Ν	100	100	100	100
Research Call	Pearson Correlation	.234*	.188	.076	.173
and Research	Sig. (2-tailed)	.019	.061	.454	.085
Reports	Ν	100	100	100	100
Online Trading	Pearson Correlation	091	056	333**	156
_	Sig. (2-tailed)	.367	.580	.001	.120
	N	100	100	100	100
Karvy App	Pearson Correlation	.052	.198*	260**	.158
(Application)	Sig. (2-tailed)	.605	.048	.009	.115
	Ν	100	100	100	100

Table.No.6.4 Correlation Analysis for Level of Satisfaction and Assurance

The above table.no.6.4 shows that the correlation analysis for level of satisfaction and assurance. The calculated value of factor Call and Trade on the behavior of employees of Stock broker are always instills confidence in customers 0.011. There is a significant relationship between Call n Trade on The behavior of employees of Stock broker are always instills confidence in customers. Alternative

Hypothesis is accepted.

The calculated value of factor Online Trading on Employees of Stock broker consistently courteous with customers 0.001. There is a significant relationship between Online Trading on Employees of Stock broker consistently courteous with customers. Alternative Hypothesis is accepted.



6.5 Correlation Analysis for Level of Satisfaction and Empathy relationship between level of satisfaction and empathy

Null Hypothesis - H_o: There is no significance

Alternative Hypothesis - H₅: There is significance relationship between level of satisfaction and empathy.

Correlation Analysis		Stock broker gives their customers individual attention.	Stock broker hasoperating hours convenient to all their customers	Stock broker employees give customers personal attention.	The employees of Stock broker understand the specific needs of their customers.
Market	Pearson Correlation	.221*	.059	157	.033
Updating Call	Sig. (2-tailed)	.027	.563	.120	.743
	Ν	100	100	100	100
Call n Trade	Pearson Correlation	.103	.276**	.130	.119
	Sig. (2-tailed)	.307	.005	.199	.240
	Ν	100	100	100	100
Post Trade	Pearson Correlation	.218*	.211*	.189	.193
Confirmation Call	Sig. (2-tailed)	.029	.035	.059	.055
	Ν	100	100	100	100
Research Call	Pearson Correlation	.079	.177	.123	.307**
and Research	Sig. (2-tailed)	.432	.077	.224	.002
Reports	Ν	100	100	100	100
Online Trading	Pearson Correlation	.079	278**	171	013
	Sig. (2-tailed)	.437	.005	.089	.896
	Ν	100	100	100	100
Karvy App	Pearson Correlation	018	.053	.238*	.086
(Application)	Sig. (2-tailed)	.859	.604	.017	.392
	Ν	100	100	100	100

Table.No.6.5 Correlation Analysis for Level of Satisfaction and Empathy

The above table.no.6.5 shows that the correlation analysis for level of satisfaction and empathy. The calculated value of factor Market Updating Call on Stock broker gives their customers individual attention 0.027. There is a significant relationship between Market Updating Call on Stock broker gives their customer's individual attention. Alternative hypothesis is accepted.

The calculated value of factor Call n Trade on Stock broker has operating hours convenient to all their

customers 0.005. There is a significant relationship between Call n Trade on Stock broker has operating hours convenient to all their customers. Alternative hypothesis is accepted.

7. MAJOR FINDINGS OF THE RESEARCH STUDY

• There is significance relationship between level of satisfaction and tangibles. The calculated value of factor Market Updating Call on Employees appearance is 0.040 is less than the tabulated value 0.05.

- There is significance relationship between level of satisfaction and reliability. The calculated value of factor Call n Trade on when customers have a problem, Stock Broker shows interest in solving it is 0.022 is less than the tabulated value 0.05.
- There is significance relationship between level of satisfaction and responsiveness. The calculated value of factor Market Updating Call on Employees of Stock Broker communicates customers exactly when services are performed 0.000 is less than the tabulated value 0.05.
- There is significance relationship between level of satisfaction and assurance. The calculated value of factor Call n Trade on the behavior of employees of Stock Broker are always instills confidence in customers 0.011 is less than the tabulated value 0.05.
- There is significance relationship between level of satisfaction and empathy. The calculated value of factor Market Updating Call on Stock Broker gives their customers individual attention 0.027 is less than the tabulated value 0.05

8. IMPLICATIONS OF THE RESEARCH STUDY

The findings imply that stock brokers need to devote more efforts to improve in the areas that are highly important to the stock investors, such as reliability, responsiveness accurate and timely executions of trading orders, advice on undue risks and empathy with the customer as a person. Improvement in these areas should enhance loyalty. Brokers would need to have a closer personal relationship with their customers. Market updating is another factor strongly influencing the investor for daily trade. So investors are expecting to update the market regularly. Investors are excepting to increase the security for transactions of pay in and pay out.

9. CONCLUSION

This study with success tailored the SERVQUAL instrument to stockbrokers in Coimbatore. Demographic characteristics of broker customers had very little relationship to service quality however customers with a lot of experience had higher opinions



on service. There have been vital gaps in commission quality, service price and client satisfaction. Client service encounters with stock brokers might be improved on variety of counts. There are vital service quality gaps in this sector and if brokers want to retain personal clients, instead of have clients resort to impersonal, transaction-orientated, on-line trading, they have to develop higher personal, empathic relationships with customers, be a lot of proactive in giving recommendation, and method transactions accurately and quickly. They additionally have to inform and educate customers to make realistic expectations. These actions could serve to enhance client loyalty and increase profitable word-of-mouth referrals within the face of a growing potential market.

REFERENCES

- IBERAHIM, H (2016), "Customer Satisfaction on Reliability and Responsiveness of Self Service Technology for Retail Banking Services" Procedia Economics and Finance 37, pp. 13 -20.
- Minu.M, Hariharan.R, (2015), "A Study on Customer Satisfaction towards the Financial Services provided by Karvy Stock Broking Limited in Bangalore City", International Journal of Engineering Technology, Management and Applied Sciences, Volume 3, Issue 6, pp.257 -286.
- Dr. Abdel Fattah Mahmoud Al-Azzam (2015) The Impact of Service Quality Dimensions on Customer Satisfaction: A Field Study of Arab Bank in Irbid City, European Journal of Business and Management, Vol.7, No.15, pp.45-53.
- Hossein Vazifeh Doost (2014) Relationship of Online Service Quality with Customer Satisfaction in Internet Banking Case Study: Pasargadae Bank, International Journal of Economy, Management and Social Sciences, 3(1) January, pp. 130-135
- 5. Shamim Ahamed, (2011), "Service Quality of Stockbrokers in Bangladesh", Indian Journal of

Commerce & Management Studies, Internationally Indexed Journal, Vol-II, Issue -2, pp. 46-56, http://scholarshub.net/ijcms/ vol2/issue2/Paper_05.pdf.

- Lee Yik?Chee, G.G. Meredith, T. Marchant, (2010) "Singapore stock broking service quality: fifteen percent gap", Journal of Services Marketing, Vol. 24 Issue: 4, pp.305-313, https:/ /doi.org/10.1108/08876041011053015.
- Parasuraman, A., Zeithaml, V.A. and Berry, L.L. (1994), "Reassessment of expectations as a comparison standard in measuring service quality: Implications for further research," Journal of Marketing, Vol. 58, No. 1, pp. 111-124.
- Lehtinen, U. and Lehtinen, J.R. (1991), "Two approaches to service quality dimensions", The Service Industries Journal, Vol. 11, No. 3, pp. 287-303.
- Parasuraman, A., Zeithaml, V.A. and Berry, L.L. (1988), "SERVQUAL: A multiple item scale for measuring consumer perceptions of service quality," Journal of Retailing, Vol. 64, No. 1, pp. 12-40.
- Parasuraman, A., Zeithaml, V.A. and Berry, L.L. (1985), "A conceptual model of service quality and its implications for future research," Journal of Marketing, Vol. 49, No. 4, pp. 41-50.
- Kirithiga S, Naresh G, Causal links between gold and silver prices of Indian commodity market, International Journal of Commerce and Management Research, 2016, Vol.2, Issue 7, Pg No. 95-101.
- Jonathan A. Batten, Cetin Cener, Brian M. Lucey, The structure of gold and silver spread returns, Quantitative Finance, 2013, volume 13, Issue 14, Pg.No. 227-234.
- 13. Takashi Miyazaki and Shigeyuki Hamori, Testing for causality between the gold return and stock market performance: evidence for 'gold

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investment in case of emergency', Applied Financial Economics, 2013, Vol.23, Iss.1, Pg No. 27-40.

- Dirk G. Baur, Asymmetric Volatility in the Gold Market, The Journal of Alternative Investments Spring 2012, Vol. 14, No. 4: pp. 26-38
- Bahram Adrangi, Arjun Chatrath, And Rohan Christie David, Price discovery in strategicallylinked markets: the case of the gold-silver spread, Applied Financial Economics, 2000,Vol.10, Iss.3, Pg No.227-234.
- P.K. Narayan, S. Narayan, S.Sharma, An analysis of commodity markets: What gain for investors? Faculty of Business and Law 2013.
- a. https://www.deakin.edu.au/__data/assets/ pdf_file/0003/411870/2013_02.pdf
- 17. G Srivatsava, Silver Price Movements in India, Bullion Bulletin, 2013, Pg No.36-37.
- Bose, S. (2008). Commodity futures market in India: A study of trends in the notional multi commodity indices. ICRA Bulletin Money & Finance, 3 (3), 125-158.
- Cheung, Y.-W., & Lai, K. S. (1993). Finitesample sizes of Johansen's likelihood ratio tests for cointegration. Oxford Bulletin of Economics and Statistics, 55 (3), 169 - 210.
- Engle, R. F., & Granger, C.W.J. (1987). Cointegration and error correction: Representation, estimation, and testing. Econometrica, 55 (2), 251 - 276.
- Granger, C.W.J. (1969). Investigating causal relations by econometric models and crossspectral methods. Econometrica, 37(3), 424 -438.
- Gupta, K., & Singh, B. (2009). Information memory and pricing efficiency of futures contracts: Evidence from the Indian equity futures markets. Journal of Emerging Market Finance, 8 (2), 191-250. DOI: 10.1177/ 097265270900800205.

- 23. Khan M Y, Jain P K, 2010, Management Accounting. Tata McGraw Hill: New Delhi Education Pvt ltd.
- 24. Grewal T S, 2005, Analysis of Financial Statements. Sultan Chand & Sons (P) ltd.
- Fischer E. Donald, Jordon J. Ronald, (2006), Security analysis and portfolio management, Pearson education inc., New Delhi, pp.522-549.
- 26. Dr.S.N.Maheshwari, "Financial Management", Sultan Chand & Sons, 2007.
- 27. C.R.Kothari, Research Methodology, Methods and Techniques, New Age International (P) Ltd., New Delhi.
- Kotler Philip (2002), "Principles of Marketing", Sultan Chand & company limited, New Delhi.



- 29. Gupta. S.P., Statistical Methods , New Delhi, Sultan Chand & Sons Publishers, 1998
- 30. Saravanavel. P. Research Methodology, Allahabad, Kitab Mahal Publishers, 2001.
- Bose, S. (2008). Commodity futures market in India: A study of trends in the notional multi commodity indices. ICRA Bulletin Money & Finance, 3 (3), 125-158.
- Fischer E. Donald, Jordon J. Ronald, (2006), Security analysis and portfolio management, Pearson education inc., New Delhi, pp.522-549.
- 33. C.R.Kothari, Research Methodology, Methods and Techniques, New Age International (P) Ltd., New Delhi.
- 34. Kotler Philip (2002), "Principles of Marketing", Sultan Chand & Company Limited, New Delhi.