



# ‘Satisfaction of online retail traders with e-brokerage firms service quality: Application of Importance-Performance Analysis (IPA).’

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## ABSTRACT

The purpose of this paper is to adopt the SERVQUAL instrument and Importance-Performance Analysis (IPA) to measure the Satisfaction level of online retail traders with e-brokerage firms. A survey was conducted among 290 respondents of online retail traders with a self-administered questionnaire using SERVQUAL instrument and IPA. Finally, 278 usable returns were analysed. Using Importance-Performance Analysis (IPA), the variables of different factors were plotted after mapping against each Quadrant. It was found that Empathy had the highest rating in terms of satisfaction and hence the e-brokerage firms need to focus on other dimensions namely Tangibility, Reliability, Responsiveness, and Assurance. A comparison between the Importance and Satisfaction of the elements as assessed by the online retail traders found that Empathy was the most important dimension. Online retail traders' level of expertise is important and hence e-broking firms need to make more efforts to educate their online retail traders and proactively advise them. Satisfaction of online retail traders with e-broking firms' Service Quality has been an important research area in marketing literature. This study sheds light on these two factors using IPA and provides practical advice for e-broking firms particularly in the light of emerging credence service qualities in financial services sector.

**Keywords:** Importance-Performance Analysis (IPA), Satisfaction level, online retail traders, e-brokerage firms, emerging credence qualities.

## INTRODUCTION

During the past few years research has been widely done on online service quality [3]. Service quality refers to the difference between the expectations of the client and the perceptions about service performance [5].

Before the introduction of online trading, the retail investment was limited to personal visits to brokerage firms or to stock exchanges, restricting access to stock market trades. However, many internet trading platforms now allow participants to participate in a market transaction thanks to technological advancements. From the perspective of both clients and brokerage firms, determining brokerage firms' satisfaction is critical. This study attempts to identify the factors that influence retail online traders' satisfaction with their brokerage firm. Hence, this study aims to determine the Importance and Satisfaction of online retail traders.

### History of the Indian stock market

Towards the end of the 18th century, under a banyan tree outside the town hall in Mumbai (then Bombay), evolved the informal cotton trade. As a central trading point for critical commodities, Bombay gave opportunities to traders to participate in the sector. The concept of a "share market" came into existence in India and was strengthened by the Companies Act 1950, which established the notion of limited liability. Between 1875 and 1920, the Bombay stock exchange and the Calcutta, Ahmedabad and Madras stock exchanges were established [12]. Some of the significant dates are:

- The Bombay stock exchange was recognised by the Indian government in 1952.
- 1986 – Sensex was introduced as a stock market index to track the rise in stock prices over time.
- SEBI (Securities Exchange Board of India) was established in 1988 and was modelled after the Securities and Exchange Commission in the United States.
- National Stock Exchange (NSE) became the first electronic stock exchange in 1992, ensuring market transparency.

### Retail Trading on the internet

Before the advent of the internet, only offline stock trading was available. Late deliveries, weak reconciliation, and time-consuming stock transfer procedures were all concerns with physical stock transactions. A company that provided services over the internet was known as an online broker. Because it was quick and inexpensive, the brokerage fees were moderate. E-Broking firms assist online retail traders, whereas online retail traders assist individual clients who charge a fee for comprehensive investment guidance [13].

**Statement of the Problem** As mentioned earlier, before the advent of online trading, retail investment was limited to visits to stock exchanges or brokerage houses, limiting access to stock market trades. However, now, participation in market trade is possible through many of the online trading terminals. The different aspects of trade like delivery and settlement takes place in an efficient, quick, and transparent manner. Many investors use the services of brokerage firms through online retail traders. Ascertaining satisfaction of online retail traders is necessary. The current study is an earnest attempt by the authors to discover an answer to the following issue, as increasing number of investors' trade stocks electronically:

- How do online retail traders assess the level of services offered by the e-brokerage firms with which they do business?

### LITERATURE REVIEW

The market for e-broking firms has gone through several transformations in India. The development of Information and Communication Technologies (ICT) has contributed to professionalism in the industry and the market has become highly competitive and efficient. As customers are better informed and have easy access to the market, they are more demanding with greater expectations of the services they use. With this background the authors have reviewed some of the earlier research works which are reproduced below:

Gulati, et.al (2000) [3] in their research tested the applicability of the traditional models of strategic management in the context of the new organisational structure, particularly the virtual environments.

Zeithaml et.al (2000) [16] in their research found that one main feature of virtual or online trading is the lack of human interactions and that the technology facilitates the interactions between the customer and the service provider. They also pointed out the growing insignificance of quality dimensions like the physical settings, employees' attitude, and proactivity, in these virtual environments.

Yang and Fang (2004) [14], using content analysis, studied on the reviews of brokerage firms in the context of e- brokerage services. They identified similarities in the manner the online customers and the traditional customers regarded primary service quality dimensions.

Izogo & Ogba, (2015) [4] concluded in their study that, as service occurs, customers also play a role in co-production and hence, it is not easy to measure service performance.

Rashid and Nishat (2009) [8] studied the satisfaction level on the individual investors because of the mechanisms of market structure. They concluded that investors emphasised on factors like the importance of investment analysis, the timelessness of information, ease of transaction, and risk management.

Severt (2002) [9] suggest satisfaction to be an emotional consumer condition that arises due to the overall assessment of all aspects that contribute to a relationship.

Balasubramanian et al. (2003) [1], opined that consumer satisfaction in online trading is a result of the experienced efficiency of the system interface over repeated interactions.

Shankar et al. (2003) [11] concluded in their research that customer satisfaction results from an overall assessment of the interactions related to each transaction as well as the relationship the customer has with the stockbroker on each instance such as the exchange of information and the processes involved.

## RESEARCH METHODOLOGY

### Objectives of the Study:

The following are the objectives of the study:

- 1) To determine the level of Satisfaction of online retail traders with e-brokerage firms' e-service quality, and
- 2). To measure the Gap between the Importance and Performance of Service Quality dimensions of e-brokerage firms as per the perceptions of online retail traders.

### Design of the study:

In this study, a Descriptive Research Design has been used to investigate the perceptions of online retail traders regarding the Importance and the level of Satisfaction of the Service Quality of their e-broking firms.

### Hypothesis framed:

Based on the literature reviews carried out and the objectives set out, the following hypotheses were formulated for testing and achieving the objectives:

**H<sub>01</sub>:** The Tangibility dimension of Service Quality of e-broking firm affects the satisfaction of online retail traders,

**H<sub>02</sub>:** The Reliability dimension of Service Quality of e-broking firm affects the satisfaction of online retail traders,

**H<sub>03</sub>:** The Responsiveness dimension of Service Quality of e-broking affects the on satisfaction of online retail traders,

**H<sub>04</sub>:** The Assurance dimension of Service Quality of e-broking firm affects the satisfaction of online retail traders and,

**H<sub>05</sub>:** The Empathy dimension of Service Quality of e-broking firm affects the satisfaction of online retail traders.

### Data Collection Method:

In this study, primary data was gathered and used to analyse the research problem. The sample respondents were the online retail traders based in Bangalore. A structured questionnaire was developed after studying several other research works on online service quality.

### Questionnaire Design:

[7] developed an instrument with 22 items to assess service quality. The authors have fine-tuned it for this study based on the literature reviews and consultations with subject experts, to



capture the opinion of the respondents regarding their perceptions on the Importance and the level of Satisfaction of the Service Quality of their e-broking firms. The responses on all five dimensions were graded on a five-point Likert scale that ranging from "Strongly disagree" (1) to "Strongly agree" (5). It was tweaked at every stage to check the Reliability and appropriateness of the questionnaire for this study and meet all the goals.

### Sampling Unit and Sample Size:

The snowball sampling method was applied to identify the online retail traders in Bangalore, Karnataka. A sample size of 290 online traders was chosen for this study. Out of 290 respondents only 278 responses were acceptable for analytic purposes, resulting in a 95.86 percentage response rate.

### Statistical Tools used:

Statistical tools such as percentage analysis, factor analysis, gap analysis using Importance-Performance Analysis (IPA), Multivariate Regression Analysis, and the 't' test were applied to achieve the objectives of this study.

### Data Analysis:

The procedure for data analysis for this study is as follows: First, to define demographic information of the respondents, frequency analysis was conducted. Second, to test the reliability of the scales, Cronbach's  $\alpha$  coefficient, which is a measure of internal consistency, was calculated. Third, to test construct validity, exploratory factor analysis was conducted. Fourth, to determine the level of Satisfaction of online retail traders with service quality of e-brokerage firms, and to measure the Gap between the Importance and Performance of Service Quality dimensions of e-brokerage firms as per the perceptions of online retail traders, IP Analysis and IPA matrix were used and finally to test the hypothesis, a multi variate regression analysis was carried out and finally to test the hypothesis, ANOVA test was conducted.

### The IPA Framework:

[6] were the first to demonstrate the use of the Importance-Performance Analysis (IPA) matrix for measuring satisfaction of customers and for prioritizing improvements in service quality. IPA assesses customer satisfaction using two attributes of product or service, namely, the relevance of a product or service to a customer and the firm's performance in delivering it [15]. In this study, the method of setting the centre point of the axes is based on the median of the maximum and minimum values of the whole averages, and the IPA intersection points are set. The horizontal axis represents the satisfaction level, and the vertical axis represents the importance level. Figure -1 depicts the IPA quadrants.

The four quadrants are commonly characterised as 'Keep up the good work' (Q1), 'Concentrate here' (Q2), 'Low priority' (Q3), and 'Possible overkill' (Q4) [10].

- The first Quadrant, **Quadrant 1**, 'Keep up the good work,' reflects a product or service's primary strengths and prospective competitive advantages. This Quadrant's features are deemed to be operating well and require further commitment.

- **Quadrant 2:** the 'concentrate here' section is the most critical part of the scheme. Attributes in quadrant 2 are regarded as underperforming. The product's vital flaws and lack of competitiveness are highlighted here. In terms of investments, these characteristics take precedence.

Figure – 1: Importance – Performance Analysis (IPA) Matrix.

HIGH	IMPORTANCE	<b>QUADRANT I</b> <b>'Concentrate Here'</b> . High Importance Low Satisfaction	<b>QUADRANT II</b> <b>'Keep up the Good Work'</b> . High Importance High Satisfaction
		<b>QUADRANT III</b> <b>'Low Priority'</b> . Low Importance Low Satisfaction	<b>QUADRANT IV</b> <b>'Possible Overkill'</b> . Low Importance High Satisfaction
LOW		<b>SATISFACTION</b>	
		LOW	HIGH

*Source: Martilla and James (1977)*

- The attributes in **Quadrant 3** (low priority) are not performing particularly well, but they're believed to be somewhat irrelevant to customers; as a result, managers shouldn't be overly worried about them. They are minor flaws, and poor performance is not a significant issue.
- **Quadrant 4**, the 'Possible overkill' area, on the other hand has features that exhibit low importance to customers but on which they enjoy high satisfaction. It indicates that the excess resources can be utilised in a better way elsewhere.

### Limitations of the study

Though this research adds to the current body of knowledge about the Satisfaction of online retail traders, there are also certain limitations, as with many other empirical investigations.

First, no consideration was given to the possibility of socio-demographic implications on the interaction between e-brokerage firms and online retail traders in the study. Examining the impacts of demographic and psychographic characteristics is a suggestion for further research.

Second, the sample size for this study is small, and hence the findings of this study are not generalizable.

### DATA ANALYSIS

#### a). Respondents' Demographic Information.

Table - 1 shows the demographic features of the respondents. Males constituted 65.8 percent of the respondents. In terms of age, majority of the respondents (53.2 percent) belong to the age group of 30 and 45 years. The majority (44.2 percent) of the respondents belong to the annual income between Rs 3 lakhs to Rs 6 lakhs. Similarly, 52.5 percent of the respondents had been trading online for more than 4 years, followed by 24.5 percent for 2 – 4 years, and the remaining 23.0 percent for less than 2 years. Finally, about the average monthly transactions, 37.8 percent had transactions between Rs 50,001 and Rs 1,00,001, 35.3 percent had transactions less than Rs 50,000, and the remaining 27.0 percent had transactions between Rs 1,00,000 and Rs 1,00,000 & above per month.

#### b) Validity Test.

The Importance-Performance of service quality was studied. To make it useful for analysis, the data was coded, tabulated, and modified. Table 3 displays the findings of the exploratory factor analysis in terms of factor loadings, Eigenvalues, and Cronbach's coefficients. All the coefficients of the constructs were greater than 0.7, indicating that each construct had an adequate level of reliability.

#### c). Analysis of Service Quality GAPS:

Table - 4 shows the Importance-Performance and the priority analysis of service quality and GAP analysis. Regarding Importance, Empathy had the highest mean score of 4.61, followed by Responsiveness (4.55), Assurance (4.54), Reliability (4.20), and Tangibility (4.18). Likewise, among individual statements, 'X<sub>1.4</sub>

- Materials associated with the service (such as pamphlets or statements) are visually appealing' in Tangibility had the highest mean score of 4.71 followed by 'X<sub>2.5</sub> – 'The broking firm I deal with will insist on error-free records in Reliability'; 'X<sub>3.1</sub> – 'Employees of a broking firm will tell customers exactly when services will be performed in Responsiveness'; 'X<sub>4.1</sub> – 'The behaviour of employees in a broking firm will instil confidence in customers in Assurance'; and 'X<sub>5.5</sub> - The employees of a broking firms will understand the specific needs of their customers' in Empathy.

Similarly, regarding online Satisfaction, Empathy received the highest rating of 3.47, followed by Responsiveness (3.44), Assurance (3.42), Reliability (3.38), and Tangibility (3.28). Among the individual statements, 'X<sub>1.1</sub> - A broking firm will have modern-looking equipment had the highest mean score in Tangibility, followed by 'X<sub>2.5</sub> – 'The broking firm I deal with will insist on error-free records'; 'X<sub>3.1</sub> – 'Employees of a broking firm will tell customers exactly when services will be performed'; 'X<sub>4.1</sub> – 'The behavior of employees in a broking firm will instil confidence in customers, and 'X<sub>5.1</sub> - A broking firm will give customers individual attention'.

#### d). Multivariate Regression Analysis

Considering the values in Table - 5, the established mathematical model characterising the Satisfaction level of online retail traders is as follows:

$$Y = 0.874 + 0.166X_1 + 0.262X_2 + 0.367X_3 + 0.303X_4 + 0.496X_5 \dots (i)$$

where X<sub>1</sub> implies Tangibility, X<sub>2</sub> implies Reliability, X<sub>3</sub> implies Responsiveness, X<sub>4</sub> implies Assurance, and X<sub>5</sub> implies Empathy.

The model is then tested using the F test, the t test for each parameter's significance, and the normality of the model residue. Table - 5 shows the results of the t tests for each model coefficient.

The results of 't' values for model coefficients 1, 2, 3, 4, and 5 are 3.908 (p-value = 0.000), 3.297 (0.000), 4.061 (0.000), 3.136 (0.002), and 2.073 (0.000) and we infer that the variables X<sub>1</sub>, X<sub>2</sub>, X<sub>3</sub>, X<sub>4</sub>, and X<sub>5</sub> are all significant because all p-values are less than 0.05.

The current multi-variate regression model is built with the assumption that the model residue should be random but distributed according to the normal distribution, and it is proved that this assumption is met.

#### e). IPA Matrix and Priority Analysis of Service Quality of e-Broking Firms

IPA Matrix was used to evaluate and analyse the relative Importance and the Satisfaction of each aspects of Service Quality of e-Broking Firms. The median value of the higher and lower values of the total averages is used to determine the centre point of axes', and the intersection point is obtained. The x-axis represents the customers' assessment of performance, which is also known as Satisfaction, while the y-axis represents the importance level [6]. Figure - 2 and Table - 3 illustrate the findings of the analysis.

The five dimensions of Service Quality namely Tangibility, Reliability, Responsiveness, Assurance and Empathy were assessed based on the importance-performance analysis and priority results. Empathy was found to be the most important factor, followed by Responsiveness, Assurance, Reliability, and Tangibility.

Specifically, X<sub>5.5</sub> was the highest in Empathy, followed by X<sub>4.1</sub> in Assurance, X<sub>5.1</sub> in Empathy, X<sub>3.1</sub> in Responsiveness, and X<sub>5.3</sub> in Empathy. Customers' perception of performance of Empathy was the highest followed by Responsiveness, Assurance, Reliability, and Tangibility. Specifically, X<sub>5.1</sub> was the highest in Empathy, followed by X<sub>2.5</sub> in Reliability, X<sub>3.1</sub> in Responsiveness, X<sub>4.1</sub> and X<sub>5.2</sub> in Empathy.

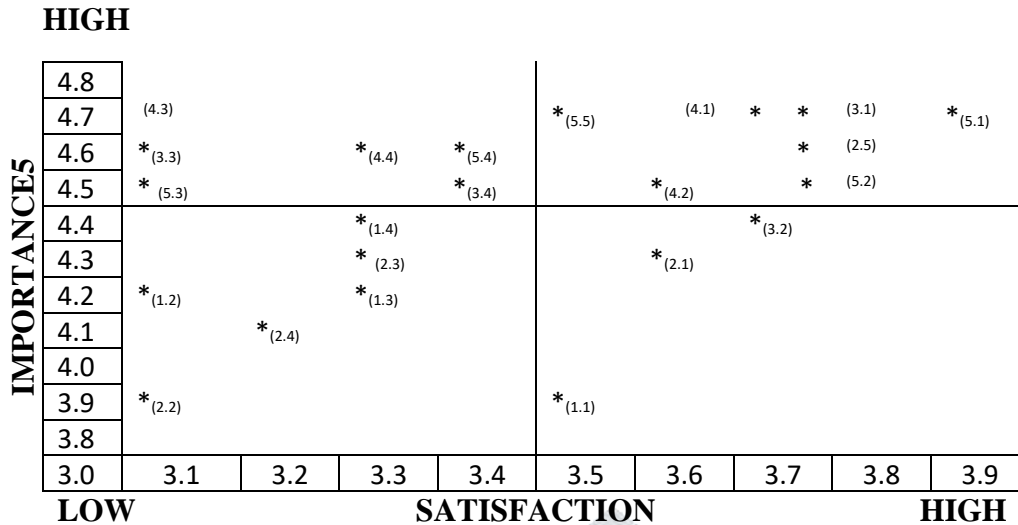
Using IP Matrix of Service Quality for e-Broking Firms, the variables were plotted after mapping, and the results are portrayed as under:

**Quadrant 1** - Six variables namely X<sub>3.3</sub>, X<sub>3.4</sub>, X<sub>4.3</sub>, X<sub>4.4</sub>, X<sub>5.3</sub>, and X<sub>5.4</sub> were plotted under this Quadrant meaning the variables under this Quadrant need Concentration.

**Quadrant 2** – Seven variables, namely X<sub>2.5</sub>, X<sub>3.1</sub>, X<sub>4.1</sub>, X<sub>4.2</sub>, X<sub>5.1</sub>, X<sub>5.2</sub> and X<sub>5.5</sub> were plotted under this Quadrant meaning the variables under this quadrant need to be continued.



Figure – 2: IP Grid Mapping on Service Quality.



**Quadrant 3** - Six variables namely X1.2, X1.3, X1.4, X2.2, X2.3 and X2.4 were plotted under this Quadrant meaning the variables under this Quadrant need to be overlooked.

**Quadrant 4** - Three variables namely X1.1, X2.1 and X3.2 were plotted under this Quadrant meaning the variables under this Quadrant need Low Priority.

**f). Hypotheses Test**

The results of hypothesis testing are shown in Table - 2. These findings suggest that the five criteria studied, namely Tangibility, Reliability, Responsiveness, Assurance, and Empathy, all contribute significantly to the satisfaction of online retail traders (F-statistic for the regression model= 12.306, p-value 0.000). As a result, we conclude that if e-brokerage firms deliver tangible, reliable, responsive, assured, and empathetic services, retail online traders are generally satisfied with the e-brokerage firms. Because the estimates are favourable, it is clear that the satisfaction level of online retail traders with these five elements are good.

**FINDINGS**

It was found that 65.8 % of the respondents are male. Majority of respondents are between the ages of 30 and 45 years, having an annual income between Rs. 3 lakhs and Rs. 6 lakhs had been trading online for more than 4 years, and finally did transactions between Rs. 50,001 and Rs. 1, 00,001 above per month. It was found that all the variables were within the acceptable level of Reliability of the scales.

It was found that Empathy had the highest mean score in case of Importance, followed by Responsiveness, Assurance, Reliability, and Tangibility in the same order. Similarly, regarding online Satisfaction, Empathy again received the highest rating, followed by Responsiveness, Assurance, Reliability, and Tangibility.

A multivariate regression model was built with the assumption that the model residue should be random but distributed according to the normal distribution, and it was proved that this assumption was met. A comparison between the Importance and Satisfaction of the elements as assessed by the customers of e-broking firms was carried out. It was found that Empathy was the most important dimension, followed by Responsiveness, Assurance, Reliability, and Tangibility.

Also, the variables of different factors were plotted after mapping against each Quadrant. The findings of hypothesis testing suggest that all the five criteria studied contribute significantly to the Satisfaction of online retail traders.

**SUGGESTIONS/RECOMMENDATIONS**

This study shows that there is a significant gap in ratings between the importance and satisfaction of e-broking firms’ service quality perceptions, especially in the case of X5.3 – Giving customers personal attention, X4.3 Consistently courteous with customers and X3.3 - Willing to help customers. Therefore, the management of the e-broking firms need to identify the main cause of the problem and try to initiate motivational efforts so that

these problems can be addressed. Also, e-broking firms should arrange special training programs and provide equal opportunities to all staff so that their skills can be improved.

The IPA grid indicates that only six attributes fell into the ‘concentrate here’ quadrant, seven attributes into ‘keep up the good work’ quadrant, six attributes into ‘Low Priority’ quadrant and finally only three attributes fell into the fourth quadrant ‘possible overkill. Thus, the study can recommend that the service quality level of the e-broking firms is not that bad. If management of the e-broking firms can further investigate the issues, it is possible to take the industry into higher level. Hopefully, the findings of the study can help the e-broking firms continuously monitor changes in online retail traders’ demands. In this way, they can improve their services in accordance with current market requirements. The findings can also assist management of the e-broking firms to create a strong relationship with the online retail traders which eventually may result in realising excellent business performance.

### SCOPE FOR FURTHER RESEARCH

Though this research adds to the current body of knowledge about the Satisfaction of online retail traders, there are certain limitations as with many other empirical investigations.

First, no consideration was given to the possibility of socio-demographic implications on the interaction between e-brokerage firms and online retail traders in the study.

Second, because the sample size for this study is so small, future research should look at larger samples taken from other parts of the country. This will ensure that the findings are generalizable.

Third, it was advised that a comparable study be undertaken between men and women to determine the differences in their attitudes, thereby the future research could have a broader focus.

### CONCLUSION

The Importance-Performance of service quality was studied using a questionnaire. The suitability of the factors and variables, as well as the findings of the exploratory factor analysis in terms of factor loading and Eigenvalues were arrived at. Reliability, Tangibility, Empathy, Assurance and Responsiveness were the factors used to evaluate the Importance and Satisfaction of service quality characteristics. To measure the e-Broking Firms performance, the IPA Matrix Analysis was used to evaluate and analyse the relative Importance and Satisfaction of each dimension of quality. To measure the gap between the quality of the online e-broking service and the online retail trader satisfaction, gap analysis was carried out using the Importance-Performance Analysis (IPA) method. These results show all the five factors, namely Tangibility, Reliability, Responsiveness, Assurance and Empathy, strongly influence the customer satisfaction.

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Table – 1: Characteristics of Respondents

Sl. No	Characteristics of	Frequency	%
<b>Gender</b>	Male	183	65.8
	Female	95	34.2
<b>Age (Years)</b>	Below 30	63	22.7
	Between 30 and 45	148	53.2
	45 and Above.	67	24.1
<b>Annual Income (Rs in Lakhs)</b>	Less than 3	93	33.5
	Between 3 and 6	123	44.2
	Above 6	62	22.3
<b>Longevity in trading online (Years)</b>	Up to 2	64	23.0
	2 - 4	68	24.5
	More than 4	146	52.5
<b>Average Monthly Transactions (Rs)</b>	Less than Rs 50,000/=	98	35.3
	Between Rs 50,001/= and Rs 1,00,000/=	105	37.8
	Rs 1,00,000/= and above	75	27.0

Table – 2: ANOVA Test Results.Mod el	Sum of Squares	Df	Mean Square	F	Sig.
Regression	274.314	5	54.863	12.306	.000 <sup>b</sup>
Residual	36.193	272	.133		
Total	310.507	277			

Table – 3, 4, &amp; 5

Factors	Variables	Table – 3			Table – 4					Table – 5								
		Validity Test			IPA and SQ GAP Analysis					't' – Test Results of Multi-Variate Regression								
		Factor Loading	Eigen values	'α'	IMPORTANCE		SATISFACTIO		GAP	Unstd.		Standardised Coefficients.						
					Mean (A)	Rank	Mean (B)	Rank		B	Std. Err.	Beta	t	Sig.	R <sup>2</sup>	F	Sig.	
									Constant	.874	.546		1.103	.003	.883	12.306	.000b	
X <sub>1</sub>	X <sub>1.1</sub>	.876	5.431	.832	3.98	21	3.54	8	0.44		.166	.078	.13	3.908	.000			
	X <sub>1.2</sub>	.903			4.17	19	3.04	21	1.13									
	X <sub>1.3</sub>	.985			4.21	17	3.33	14	0.88									
	X <sub>1.4</sub>	.906			4.35	16	3.24	16	1.11									
X <sub>2</sub>	X <sub>2.1</sub>	.876	4.2	.824	4.39	15	3.54	9	0.85		.262	.069	.54	3.297	.000			
	X <sub>2.2</sub>	.903			3.83	22	3.04	20	0.79									
	X <sub>2.3</sub>	.985			4.21	18	3.33	15	0.88									
	X <sub>2.4</sub>	.900			4.07	20	3.24	17	0.83									
	X <sub>2.5</sub>	.901			4.53	9	3.77	2	0.76									
X <sub>3</sub>	X <sub>3.1</sub>	.936	3.752	.841	4.63	4	3.71	3	0.92		.367	.067	.31	4.061	.000			
	X <sub>3.2</sub>	.926			4.47	13	3.62	6	0.85									
	X <sub>3.3</sub>	.939			4.55	7	3.06	18	1.49									
	X <sub>3.4</sub>	.902			4.55	8	3.37	11	1.18									
X <sub>4</sub>	X <sub>4.1</sub>	.938	2.986	.837	4.70	2	3.71	4	0.99		.303	.045	.26	3.136	.002			
	X <sub>4.2</sub>	.934			4.45	14	3.62	7	0.83									
	X <sub>4.3</sub>	.933			4.51	10	3.03	22	1.48									
	X <sub>4.4</sub>	.919			4.51	11	3.34	13	1.17									
X <sub>5</sub>	X <sub>5.1</sub>	.883	2.527	.860	4.68	3	3.82	1	0.86		.49	.065	.40	2.073	.000			
	X <sub>5.2</sub>	.919			4.48	12	3.69	5	0.79									
	X <sub>5.3</sub>	.905			4.59	5	3.05	19	1.54									
	X <sub>5.4</sub>	.873			4.58	6	3.37	12	1.21									
	X <sub>5.5</sub>	.906			4.71	1	3.40	10	1.31									