

**An Empirical Study Of Critical Factors Affecting Consumer Product Return**  
**Using Factor Analysis**

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**ABSTRACT**

According to Invest India , a Govt. of India report published in June 2019 , the Indian Electronics market in India is projected to reach US \$ 228 bn by 2020 from over \$ 100 bn in 2016-17. India has become the fastest growing smartphone market in the Asia Pacific.

The Indian Electronics industry is being driven by macro factors such as growing middle class population and rising disposable income. In addition, declining electronics prices and adoption of high end technology devices is leading to an uptick in consumption of electronics devices

As the consumer electronics industry grows exponentially, the volume of product returns by consumers are also increasing rapidly. According to (Christopher, 2005), Consumers are not buying products they are buying benefits. Organisations should try to understand why the returns are steadily increasing as product returns impose financial costs to both consumers, retailers and manufacturers alike.

The purpose of the paper is to present a detailed application of the factor analysis technique of the various latent factors that affect Consumer product returns by conducting an empirical study on the return behaviour of consumers in consumer electronic products.

**Keywords:** Returns policies, policy awareness, Consumer return behaviour, product return factors, factor analysis.

## **1.1 INTRODUCTION**

In retail, a **product return** is the process of a customer taking previously purchased merchandise back to the retailer, and in turn receiving a refund in the original form of payment, **exchange** for another item (identical or different), or a store credit. Despite increased organizational attention to sophisticated philosophies and methods for achieving higher product quality (e.g., TQM, Six Sigma, and lean operations), the magnitude of returns is high (Rogers, Lambert, Croxton, & García-Dastugue, 2002).

## **1.2 Returns Management**

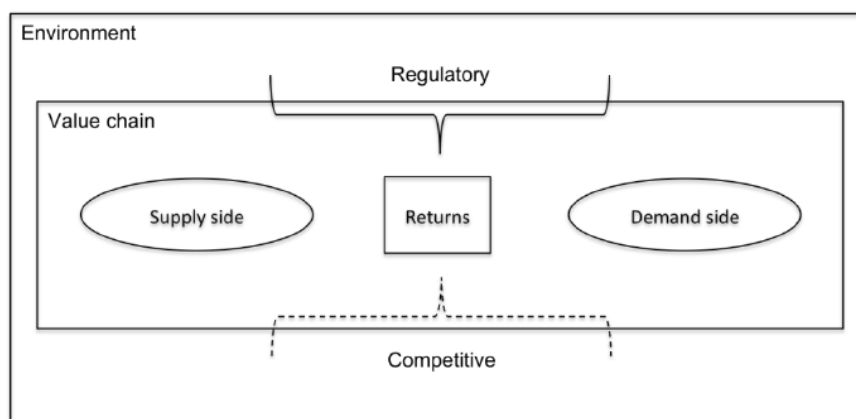
Returns management is the supply chain management process by which activities associated with returns, reverse logistics, and avoidance are managed within the firm and across key members of the supply chain.

Returns management is a boundary spanning process that requires interaction between members of the supply chain. It encompasses activities such as avoidance and gatekeeping,

which are central elements to effective management of the return flow. Effective implementation of returns management enables executives to identify productivity improvement opportunities. As part of implementing the process, management needs to measure the financial impact of returns on the firm and on other members of the supply chain. The management of returns is a service operation involving the process of handling returned goods from customers to satisfy their needs and fulfil company benefit on an agreed policy. If the returns process is complex, slow, or inconvenient, customer dissatisfaction will only escalate, which will put future business at risk .

A model (see Figure 1.1)<sup>1</sup> of the surroundings and the different forces that create returns is presented. The model is adapted from a model presented by Carter and Ellram (1998). The model shows four driving forces that

create returns in a value chain; the outer boundary consists of regulatory and competitive forces that stipulate the outer conditions. Inside the value chain the outer regulatory forces, such as producer responsibility and consumer rights directives, directly stipulate return conditions, on both the supply and demand sides. The competitive forces indirectly influence the balance between physical supply and demand that could cause returns. The supply side might reposition (return) inventory located downstream, in order to respond to demand in another (competing) value chain (network). The demand side could return inventory for the same reason, i.e. over-anticipated demand, and push returns upstream towards supply side. The model does not explain why returns are created, but merely suggests that returns are likely caused by more than one factor. Returns therefore call for attention outside the organisation, i.e. the returns system must comply with legislation that varies depending on the market, and competitive pressure affects both the supply side and demand side, thus creating returns.



*Figure 1.1 Forces affecting returns in a value chain, adapted from Carter and Ellram (1998)*

<sup>1</sup> Report/ Department of Logistics and Transportation, Chalmers University of Technology: L045, ISSN 1654-9732

### **1.3 Objectives of the study:**

The objectives of this empirical study is to discuss the following :

- a) Reasons for product return
- b) Latent factors that impact the product return behaviour of consumers

- c) To Test association between Gender and constructs (latent factors)

#### **1.4 Need for study**

Consumer behavior as a whole has been a subject of extensive study over the last 20 years. As the variety of products offered by retailers becomes more and more similar, and large retailers are able to provide a larger variety of products, retailers are less able to be competitive by product differentiation and they seek to find new avenues of competitive advantage (Christensen, 2001). Thus, in order to get a competitive advantage over the other retailers, organizations focus on understanding consumer behavior, consumer needs and building customer loyalty (Gefen, 2002). consumer dissatisfaction is primarily driven by a service or product failure, but it can be mitigated by a satisfactory recovery option. Moreover, return policies and the product return procedures seem to have a major influence on consumer loyalty and satisfaction (Wood, 2001).

Over the years consumers have developed certain expectations of what a return policy should be, how long it should be and what state the product should be in when it is returned. The customer expects that the product will be in good condition and working order. However, perhaps most important is that the customer expects that given the shipping times involved, the duration of the return policy is sufficient for him to examine the product and to return it back to the retailer. Thus a retailer should adopt a returns policy that satisfies customers, aligns with his business interests, is workable and affordable.

#### **1.5 Literature review**

Ms.Asmatara khan, Dr Chadrnahauns R. Chavan (2015) seeks to analyze factors affecting on online shopping behavior of consumers . However, there is very limited knowledge about online consumer behavior because it is a complicated socio-technical phenomenon and involves too many factors viz perceived risks, motivational factors and return policy on attitude toward online shopping behavior and subjective norms, perceived behavioral control, domain specific innovativeness and attitude on online shopping behavior .

Zhi Pei, Audhesh Paswan, Ruiliang Yan (2013) state that “while e-commerce is growing, returns are proving to be a major problem for e-tailers (i.e. internet retailers). E-tailers' return policies play a strategic influence on consumer behavior. Because the inability to touch or feel the physical product in an online environment, e-tailer's return policy plays an important role in consumer purchase behaviour”.

Gentile, Chiara, Nicola Spiller and Giulano Noci (2007) “The customer experience arises from interactions between a consumer and a product, a company, or part of its organization, which abets reaction. This experience is personal and denote the customer's involvement at multiple levels (rational, emotional, sensorial, physical, and spiritual)”

Rebecca Therese Colburn (2013) in a study states that “Returns are a largely untouched area in supply chain because they represent a failure on the demand side of the supply chain. However, they are a necessary part of the supply chain to ensure consumer satisfaction. Consumers typically respond to the thought of returning a product with a groan. Many find the process an inconvenience, a headache, or worse, refrain from making returns at all and just keep the unsatisfactory product because making the return is not worthwhile. Firms rarely look at extracting value from returns from a consumer service perspective, focusing solely on less waste, greater recovery of product, and efficient reselling, so there is a strong opportunity for growth in this area.

People typically return products for a variety of reasons including incorrect size, color, or fit, faulty products, or even simply changing their mind about the product. These simple reasons can cause retailers to absorb significant reverse logistics expenses per return. For companies to be able to recoup some of this cost, it is important that customers have a positive returns experience. Knowing that they can return unsatisfactory products quickly and easily, consumers are more likely to make impulse buys, increase their purchasing volume, and increase their lifetime customer value. Returns are also a problem for companies because if they are mishandled they can act as a deterrent for shoppers. Therefore, to keep customers satisfied it is important that retailers invest in adequate returns management processes. (Kamdampully, 1998). Returns management refers to the reverse logistics process taken for a product when a customer deems it unsatisfactory in some way. For example, products can be the improper size, shape, or content. Also, defective products are often a trigger of product

returns. Lastly, even when products meet expectations consumers are apt to change their mind after purchasing (Yu and Goh, 2010).

Stacy L Wood (2001) states that “Remote purchase environments differ from traditional bricks-and-mortar purchases in that the purchase decision is more likely to be framed as two separate decisions: consumers' decisions to order and, upon receipt, their decisions to keep or return the item. These two decisions are separated by a period of time, and crucial experiential information often is available only at the second decision point (i.e., after receipt). Consumers' initial lack of experiential information makes product choice more risky and Return policy leniency is one way to minimize the inherent consumer risk”

**Gap in the Existing literatures** in product returns management indicate that research approach has been focused mainly from the firm’s profitability point of view and the existing measures of product returns and reverse logistics have not been developed from actual customer expectations.

## **2 Research methodolgy**

This study is based on primary data. As many as 70 respondents were Contacted and a sample size of 70 respondents answered the Questionnaire.

From this study the collected data was analyzed and interpreted by applying the following statistical tools.

1. Simple Percentage analysis method
2. Factor analysis

### **2.1 PROFILE OF THE RESPONDENTS**

Table 1 showing genderwise distribution of respondents

|        |        | No. of respondents | Percent | Cumulative Percent |
|--------|--------|--------------------|---------|--------------------|
| Gender | Male   | 54                 | 77.1    | 77.1               |
|        | Female | 16                 | 22.9    | 100.0              |
|        | Total  | 70                 | 100.0   |                    |

Source : primary data

Table 2 showing distribution of respondents based on age

|     |                      | No. of respondents | Percent | Cumulative Percent |
|-----|----------------------|--------------------|---------|--------------------|
| Age | <b>16 – 25 years</b> | 24                 | 34.3    | 34.3               |
|     | 25 – 30 years        | 10                 | 14.3    | 48.6               |
|     | 30 – 40 years        | 6                  | 8.6     | 57.1               |
|     | 40 – 50 years        | 10                 | 14.3    | 71.4               |
|     | 50 – 70 years        | 20                 | 28.6    | 100.0              |
|     | Total                | 70                 | 100.0   |                    |

Source : primary data

Table 3 showing distribution of respondents based on education

|           |                | No. of respondents | Percent | Cumulative Percent |
|-----------|----------------|--------------------|---------|--------------------|
| Education | Upto X std     | 6                  | 8.6     | 8.6                |
|           | PUC            | 46                 | 65.7    | 74.3               |
|           | Degree         | 16                 | 22.9    | 97.1               |
|           | Post Graduates | 2                  | 2.9     | 100.0              |
|           | Total          | 70                 | 100.0   |                    |

Source : primary data

Table 4 showing distribution of respondents based on Occupation

|        |                      | Frequency | Percent | Cumulative Percent |
|--------|----------------------|-----------|---------|--------------------|
| Status | Student              | 26        | 37.1    | 37.1               |
|        | Working professional | 28        | 40.0    | 77.1               |
|        | Business             | 6         | 8.6     | 85.7               |
|        | Others               | 10        | 14.3    | 100                |
|        | Total                | 70        | 100.0   |                    |

Source : primary data

Table 5 showing distribution of respondents based on Monthly income

| Reasons        |                        | Frequency | Percent | Cumulative Percent |
|----------------|------------------------|-----------|---------|--------------------|
| Monthly Income | Rs. 10000 – Rs. 30000  | 22        | 31.4    | 31.4               |
|                | Rs. 30000 – Rs. 60000  | 26        | 37.1    | 68.6               |
|                | Rs. 60000 – Rs. 100000 | 18        | 25.7    | 94.3               |
|                | More than Rs. 100000   | 4         | 5.7     | 100.0              |
|                | Total                  | 70        | 100.0   |                    |

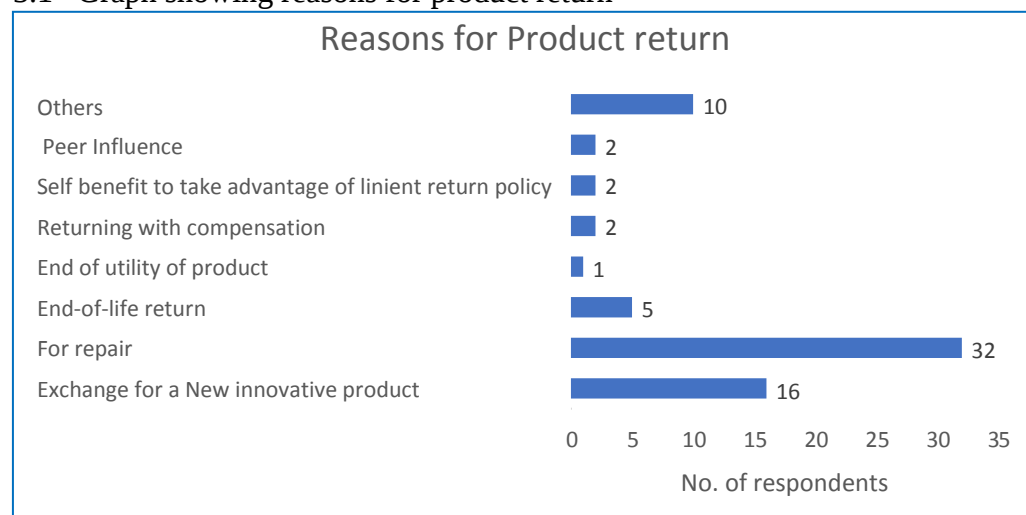
Source : primary data

Table 3.1 showing Distribution of reasons for product return

| SL. No. | Reasons for product return                              | No. of respondents | Percentage |
|---------|---------------------------------------------------------|--------------------|------------|
| 1       | Exchange for a New innovative product                   | 16                 | 22.9       |
| 2       | For repair                                              | 32                 | 45.7       |
| 3       | End-of-life return                                      | 5                  | 7.1        |
| 4       | End of utility of product                               | 1                  | 1.4        |
| 5       | Returning with compensation                             | 2                  | 2.9        |
| 6       | Self benefit to take advantage of lenient return policy | 2                  | 2.9        |
| 7       | Peer Influence                                          | 2                  | 2.9        |
| 8       | Others                                                  | 10                 | 14.3       |
|         |                                                         | 70                 |            |

Source : primary data

### 3.1 Graph showing reasons for product return



### 3.2 Factor Analysis

Factor analysis attempts to identify underlying variables, or factors, that explain the pattern of correlations within a set of observed variables. Factor analysis is often used in data reduction to identify a small number of factors that explain most of the variance observed in a much larger number of manifest variables.

### Instrument Reliability, KMO & Bartlett's Test of Sphericity

Reliability refers to the extent that the instrument yields the same results over multiple trials. The coefficient alpha (or Cronbach's alpha) is used to assess the internal consistency of the item. If the alpha value is .70 or higher, the instrument is considered reliable. Since the alpha value = 0.777, the instrument is reliable

| Table 3.2.1 Reliability Statistics |            |
|------------------------------------|------------|
| Cronbach's Alpha                   | N of Items |
| .777                               | 16         |

KMO & Bartlett's Test of Sphericity is a measure of sampling adequacy that is recommended to check the case to variable ratio for the analysis being conducted. In most academic and business studies, KMO & Bartlett's test play an important role for accepting the sample adequacy. While the KMO ranges from 0 to 1, the world-over accepted index is over 0.5. Also, the Bartlett's Test of Sphericity relates to the significance of the study and thereby shows the validity and suitability of the responses collected to the problem being addressed through the study. Kaiser-Meyer-Olkin Measure of Sampling Adequacy was found to be 0.591. This indicates that the factor analysis is appropriate for these data. Bartlett's measure tests the null hypothesis that the original correlation matrix is an identity matrix. A significant test tells us that the R-matrix is not an identity matrix; therefore, there are some relationships between the variables that are to be included in the analysis. For this study, Bartlett's test is highly significant ( $p < 0.001$ ), and therefore factor analysis is appropriate.

| Table 3.2.2 KMO and Bartlett's Test              |                    |         |
|--------------------------------------------------|--------------------|---------|
| Kaiser-Meyer-Olkin Measure of Sampling Adequacy. |                    | .591    |
| Bartlett's Test of Sphericity                    | Approx. Chi-Square | 485.854 |
|                                                  | df                 | 120     |
|                                                  | Sig.               | .000    |

Communalities are designed to show the proportion of variance that the factors contribute to explaining a particular variable. Principal Component Analysis works on the initial assumption that all variance is common, therefore, before extraction the communalities are all 1. The amount of variance in each variable that can be explained by the retained factors is represented by the communalities, as shown in *Table 3.2.3*, after extraction.

| Table 3.2.3 Communalities                        |         |            |
|--------------------------------------------------|---------|------------|
|                                                  | Initial | Extraction |
| no questions                                     | 1.000   | .788       |
| deadline                                         | 1.000   | .759       |
| cash refund                                      | 1.000   | .724       |
| hassles                                          | 1.000   | .695       |
| return worthy                                    | 1.000   | .747       |
| Customer satisfaction                            | 1.000   | .827       |
| pompt service                                    | 1.000   | .752       |
| rapid service                                    | 1.000   | .759       |
| Empowerment                                      | 1.000   | .820       |
| Reliability on _promise                          | 1.000   | .744       |
| On line Information                              | 1.000   | .767       |
| Feedback                                         | 1.000   | .737       |
| Convenient process                               | 1.000   | .655       |
| Satis on return_process                          | 1.000   | .751       |
| Compensation                                     | 1.000   | .757       |
| Substitutes                                      | 1.000   | .675       |
| Experience                                       | 1.000   | 1.000      |
| Compensation                                     | 1.000   | 1.000      |
| Free returns                                     | 1.000   | 1.000      |
| Deadlines                                        | 1.000   | 1.000      |
| Satisfaction                                     | 1.000   | 1.000      |
| Hasslefree                                       | 1.000   | 1.000      |
| Extraction Method: Principal Component Analysis. |         |            |

Eigen values are designed to show the proportion of variance accounted for by each factor (George and Mallery, 2010). The Eigen values associated with each component represent the variance explained by that particular component. All components with Eigen value greater than 1 are extracted, which leaves us with six factors. In the final part of the table (*Rotation Sums of Squared Loadings*), the Eigen values of the factors after varimax rotation are displayed. The percentage of total variance is used as an index to determine how well the total factor solution accounts for what the variables together represent. The index for the

present study accounts for 74.723% of the total variance for studying the product return factors.

| Table 3.2.4 Total Variance Explained             |                     |               |              |                                   |               |              |
|--------------------------------------------------|---------------------|---------------|--------------|-----------------------------------|---------------|--------------|
| Component                                        | Initial Eigenvalues |               |              | Rotation Sums of Squared Loadings |               |              |
|                                                  | Total               | % of Variance | Cumulative % | Total                             | % of Variance | Cumulative % |
| Satis on return_process                          | 4.835               | 30.217        | 30.217       | 3.756                             | 23.472        | 23.472       |
| On line Information                              | 1.924               | 12.024        | 42.242       | 1.791                             | 11.191        | 34.663       |
| Feedback                                         | 1.692               | 10.574        | 52.816       | 1.687                             | 10.545        | 45.207       |
| pompt service                                    | 1.310               | 8.187         | 61.003       | 1.634                             | 10.213        | 55.421       |
| rapid service                                    | 1.195               | 7.470         | 68.472       | 1.606                             | 10.038        | 65.458       |
| Empowerment                                      | 1.000               | 6.251         | 74.723       | 1.482                             | 9.265         | 74.723       |
| Convenient process                               | .874                | 5.460         | 80.183       |                                   |               |              |
| cash refund                                      | .624                | 3.898         | 84.081       |                                   |               |              |
| Substitutes                                      | .580                | 3.623         | 87.703       |                                   |               |              |
| no questions                                     | .445                | 2.782         | 90.486       |                                   |               |              |
| deadline                                         | .410                | 2.560         | 93.045       |                                   |               |              |
| return worthy                                    | .344                | 2.152         | 95.197       |                                   |               |              |
| Relibility on _promise                           | .311                | 1.946         | 97.143       |                                   |               |              |
| Customer satisfaction                            | .231                | 1.445         | 98.587       |                                   |               |              |
| Compensation                                     | .130                | .814          | 99.401       |                                   |               |              |
| hassles                                          | .096                | .599          | 100.000      |                                   |               |              |
| Extraction Method: Principal Component Analysis. |                     |               |              |                                   |               |              |

| Table 3.2.5 Rotated Component Matrix <sup>a</sup> |           |   |   |   |   |   |                                 |
|---------------------------------------------------|-----------|---|---|---|---|---|---------------------------------|
|                                                   | Component |   |   |   |   |   | New factor                      |
|                                                   | 1         | 2 | 3 | 4 | 5 | 6 |                                 |
| Satis on return_process                           | .794      |   |   |   |   |   | Experience with return services |
| On line Information                               | .778      |   |   |   |   |   |                                 |
| Feedback                                          | .768      |   |   |   |   |   |                                 |

|                                                     |      |      |      |      |      |      |                                                |
|-----------------------------------------------------|------|------|------|------|------|------|------------------------------------------------|
| pompt service                                       | .759 |      |      |      |      |      | offered by<br>manufacturer                     |
| rapid service                                       | .689 |      |      |      |      |      |                                                |
| Empowerment                                         | .563 |      |      |      |      |      |                                                |
| Convenient process                                  | .499 |      |      |      |      |      |                                                |
| cash refund                                         |      | .839 |      |      |      |      | compensation<br>-Refunds and<br>substitutes    |
| Substitutes                                         |      | .578 |      |      |      |      |                                                |
| no questions                                        |      |      | .862 |      |      |      | Free returns<br>with no<br>questions<br>asked  |
| deadline                                            |      |      |      | .828 |      |      | No Deadlines<br>for product<br>returns         |
| return worthy                                       |      |      |      | .542 |      |      |                                                |
| Relibiality on _promise                             |      |      |      | .540 |      |      |                                                |
| Customer satisfaction                               |      |      |      |      | .874 |      | Satisfaction<br>with the<br>return<br>services |
| Compensation                                        |      |      |      |      | .537 |      |                                                |
| hassles                                             |      |      |      |      |      | .778 | Hassle free<br>procedure for<br>returns        |
| Extraction Method: Principal Component Analysis.    |      |      |      |      |      |      |                                                |
| Rotation Method: Varimax with Kaiser Normalization. |      |      |      |      |      |      |                                                |
| a. Rotation converged in 9 iterations.              |      |      |      |      |      |      |                                                |

After performing Varimax Rotation Method with Kaiser Normalization, we find Factor 1 comprised of 7 items with factor loadings ranging from 0.499 to 0.794. Factor 2 comprised of 3 items with factor loadings ranging from 0.578 to 0.839.

Factor 3 comprised of 1 items with factor loading 0.862. Factor 4 comprised of 4 items with factor loadings ranging from 0.540 to 0.828. Factor 5 comprised of 2 items with factor loadings ranging from 0.537 to 0.874 and Factor 6 comprised of 1 items with factor loading 0.778.

The above Six new factors which were successfully constructed using factor analysis are assigned as the factors affecting the product returns as per the table below. Table 4 shows the

name of the new factors and percentage of variance explained for each of the factors. The first factor shows the highest percentage of variance explained when it was extracted.

**Table 3.2.6 showing percentage of variance of constructs**

| FACTOR                                                           | % of Variance | Cumulative % of Variance |
|------------------------------------------------------------------|---------------|--------------------------|
| FACTOR 1 Experience with return services offered by manufacturer | 23.472        | 23.472                   |
| FACTOR 2 compensation -Refunds and substitutes                   | 11.191        | 34.663                   |
| FACTOR 3 Free returns with no questions asked                    | 10.545        | 45.207                   |
| FACTOR 4 No Deadlines for product returns                        | 10.213        | 55.421                   |
| FACTOR 5 Satisfaction with the return services                   | 10.038        | 65.458                   |
| FACTOR 6 Hassle free procedure for returns                       | 9.265         | 74.723                   |

## INTER CONSTRUCT CORRELATION MATRIX

**Table 3.2.7 Component Score Covariance Matrix**

| Component | 1     | 2     | 3     | 4     | 5     | 6     |
|-----------|-------|-------|-------|-------|-------|-------|
| 1         | 1.000 | .000  | .000  | .000  | .000  | .000  |
| 2         | .000  | 1.000 | .000  | .000  | .000  | .000  |
| 3         | .000  | .000  | 1.000 | .000  | .000  | .000  |
| 4         | .000  | .000  | .000  | 1.000 | .000  | .000  |
| 5         | .000  | .000  | .000  | .000  | 1.000 | .000  |
| 6         | .000  | .000  | .000  | .000  | .000  | 1.000 |

Extraction Method: Principal Component Analysis.

Rotation Method: Varimax with Kaiser Normalization.

The variables are totally noncollinear. If this matrix was factor analysed. It would extract as many factors as variables, since each variable would be its own factor. It is totally non-factorable

### 3.3 Null Hypothesis ( $H_0$ ): There is no significant mean difference between Age and factors affecting consumer behavior

**Table 3.3.1 showing Hypothesis test summary between Age and Constructs**

| Hypothesis Test Summary |                                                                           |                                         |      |                             |
|-------------------------|---------------------------------------------------------------------------|-----------------------------------------|------|-----------------------------|
|                         | Null Hypothesis                                                           | Test                                    | Sig. | Decision                    |
| 1                       | The distribution of Experience is the same across categories of Gender.   | Independent-Samples Kruskal-Wallis Test | .911 | Retain the null hypothesis. |
| 2                       | The distribution of Compensation is the same across categories of Gender. | Independent-Samples Kruskal-Wallis Test | .083 | Retain the null hypothesis. |
| 3                       | The distribution of Free returns is the same across categories of Gender. | Independent-Samples Kruskal-Wallis Test | .467 | Retain the null hypothesis. |
| 4                       | The distribution of Deadlines is the same across categories of Gender.    | Independent-Samples Kruskal-Wallis Test | .146 | Retain the null hypothesis. |
| 5                       | The distribution of Satisfaction is the same across categories of Gender. | Independent-Samples Kruskal-Wallis Test | .467 | Retain the null hypothesis. |
| 6                       | The distribution of Hasslefree is the same across categories of Gender.   | Independent-Samples Kruskal-Wallis Test | .073 | Retain the null hypothesis. |

Asymptotic significances are displayed. The significance level is .05.

Source : SPSS output

**Table 3.3.2 showing Mean Rank between Genders for Constructs**

|              | Gender | N         | Mean Rank    |
|--------------|--------|-----------|--------------|
| Experience   | Male   | 54        | 35.35        |
|              | Female | <b>16</b> | <b>36.00</b> |
|              | Total  | 70        |              |
| Compensation | Male   | 54        | 33.20        |
|              | Female | <b>16</b> | <b>43.25</b> |
|              | Total  | 70        |              |
| Free returns | Male   | <b>54</b> | <b>36.46</b> |
|              | Female | 16        | 32.25        |
|              | Total  | 70        |              |
| Deadlines    | Male   | <b>54</b> | <b>37.43</b> |
|              | Female | 16        | 29.00        |
|              | Total  | 70        |              |
| Satisfaction | Male   | 54        | 34.54        |
|              | Female | <b>16</b> | <b>38.75</b> |
|              | Total  | 70        |              |
| Hasslefree   | Male   | 54        | 33.13        |
|              | Female | <b>16</b> | <b>43.50</b> |
|              | Total  | 70        |              |

The mean rank for Factor 1, the experience factor : The mean rank for female respondents is 36 which is higher as compared to male respondents. Hence, Females have better Experience with return services offered by manufacturer

The mean rank for Factor 2, the compensation factor : The mean rank for female respondents is 43.25 which is higher as compared to male respondents. Hence, Females feel compensation in the form of Refunds and substitutes are satisfactory

The mean rank for Factor 3, the free returns factor : The mean rank for male respondents is 36.46 which is higher as compared to female respondents. Hence, males feel the return policy should have Free returns with no questions asked

The mean rank for Factor 4, the no deadlines factor : The mean rank for male respondents is

37.43 which is higher as compared to female respondents. Hence, males feel the return policy should contain product returns with no deadlines

The mean rank for Factor 5, the satisfaction factor : The mean rank for female respondents is 38.75 which is higher as compared to male respondents . Thus females feel that the return services offered by manufacturer is satisfactory

The mean rank for Factor 6, the hasslefree factor : The mean rank for female respondents is 43.5 which is higher as compared to male respondents . Thus females feel that the procedure for return process should be hassle free.

### **Findings and Conclusions**

Maximum number of respondents were male at 77.1% as compared to female respondents at 22.9% , 34.5% of the respondents were in the age group 16-25 years , 65.7% of the respondents were PUC students, 40% were working professional and 37.1% of the respondents were having the monthly income in the range Rs. 30000 to Rs. 60000 while 45.7% of the respondents have returned the product for repair.

Females have better Experience with return services offered by manufacturer, Females feel compensation in the form of Refunds and substitutes are satisfactory, males feel the return policy should have Free returns with no questions asked, males feel the return policy should contain product returns with no deadlines, females feel that the return services offered by manufacturer is satisfactory and females feel that the procedure for return process should be hassle free.

**LIMITATIONS OF THE STUDY:** The sample which has taken may not be the replica of the population of India . It is a convenience sample and the data for the purpose of the study is collected from respondents in Bengaluru only and analysis for this study is based on this data.

### **Suggestions for Future Research**

A study with a bigger sample from different parts of India can be recommended for further research on both the qualitative and the quantitative aspects. Other research applications can be applied to know the effect of return policies on manufacturers and retailers in mobile phone industry.

#### 4 References & Bibliography

Adam Richardson. "Understanding Customer Experience". 2010. Retrieved from "https://hbr.org/ 2010/10/understanding-customerexperience"

J. Andrew Petersen (University of North Carolina at Chapel Hill) and V. Kumar (Georgia State University), *Perceived Risk, Product Returns, and Optimal Resource Allocation: Evidence from a Field Experiment*, Journal of Marketing Research, Apr. 2015, vol. 52, no. 2

**A.Asmarubiya Begam and S.M.Mohamed Nasardeen**, "EMPIRICAL STUDY ON FACTORS INFLUENCING CONSUMER CHOICE OF LIFE PRODUCTS" Journal of Management and Science - JMS ISSN 2250-1819 (Online) / ISSN 2249-1260 (Printed)

Bower, A.B. and Maxham (2006). *Customer Responses to Product Return Experiences* working paper, McIntire School of Commerce, University of Virginia.

Chih-Chien, Li-Chuan Wang, 2005, "INNOVATIVENESS AND MOBILE PHONE REPLACEMENT: AN EMPIRICAL STUDY IN TAIWAN" Asia Pacific Advances in Consumer Research Volume 6, 2005 , Pages 280-283

CHONLADA SAJJANIT, THAMMASAT UNIVERSITY ACADEMIC YEAR 2015, A dissertation on "THE DEVELOPMENT OF A MEASURE OF CUSTOMER-ORIENTED PRODUCT RETURNS SERVICE PERFORMANCE"

Free Issues of Forbes "Solving The Product Return Problem In Consumer Gizmos"  
<https://www.forbes.com/.../solving-the-product-return-problem-in-consumer-gizmos/Tech>  
JAN 30, 2012 @ 08:57 PM 11,987 2

Goh, T.N. & N. Varaprasad, "A Statistical Methodology for analysis of life-cycle of reusable containers", IIE Transaction, 1986, Vol. 18, pp 42-47.

Gooley, T., "Diminishing Returns", Logistics management and distribution report, 2001, pp 43.

Gilovich, T. and Medvec, V.H. (1995). 'The experience of regret: What, when and why', *Psychological Review*, Vol. 102 No. 2, pp. 379-395.

Hau L. Lee • V. Padmanabhan • Seungjin Whang, "The Bullwhip Effect in Supply Chains" MIT Sloan Management review Spring 1997 Vol. 38, No. 3 Reprint #3,

Khan, S.A., Liang, Y. and Shahzad, S. (2015) "An Empirical Study of Perceived Factors Affecting Customer Satisfaction to Re-Purchase Intention in Online Stores in China". *Journal of Service Science and Management*, 8, 291-305.  
<http://dx.doi.org/10.4236/jssm.2015.83032>

Liang, Xavier; Jin, Xiaoning; Ni, Jun (2014) : *Forecasting product returns for remanufacturing systems*, Journal of Remanufacturing, ISSN 2210-4690, Springer, Heidelberg, Vol. 4, Iss. 8, pp. 1-18, <http://dx.doi.org/10.1186/s13243-014-0008-x>

Li, Y., Xu, L. and Li, D. (2013). 'Examining relationships between the return policy, product

quality and pricing strategy in online direct selling', *International Journal of Production Economics*, Vol. 144 No. 2, pp. 451-460.

Menachem Domb, Joshi Sujata, Bhatia Sanjay, Roy Arindam, and Saini Jypti, "An Empirical Study to Measure Customer Experience for Telecom Operators in Indian Telecom Industry" GSTF Journal on Business Review (GBR), open access, Vol.4 No.3, June 2016 ©The Author(s) 2016.

Miao wang & HongJian Qu, 2017, "Review of Research on the impact of Online Shopping Return policy on Consumer Behaviour" *Journal of Business Administration research*, Vol 6, No2, 2017

Mollenkopf, D.A., Rabinovich E., Laseter T.M. and Boyer K.K. (2007). 'Managing Internet product returns: A focus on effective service operations', *Decision Sciences*, Volume 38 No. 2, pp. 215-250. Onprocess Technology 2012 WHITE PAPER "Reducing Return Rates on Consumer Electronics Products Identification of High Propensity-to-Return"

ScienceDaily "Free product returns have major impact on future sales" <https://www.sciencedaily.com/releases/2012/10/121009101344.htm> October 9, 2012 Washington and Lee University,

Sudheer Gupta , Omkar D. Palsule-Desai(2011) *Sustainable supply chain management: Review and research opportunities*, IIMB Management Review (2011) 23, 234e245

Yu, M. C., & Goh, M. (2010). Time-bound product returns and optimal order quantities for mass merchandisers. *International Journal of Systems Science*, 43(1), 163-179. Retrieved from <http://dx.doi.org/10.1080/00207721.2010.481367>