# Designing floral product basket for different segment of customers

at

Tata Steel Utilities and Infrastructure Services Ltd.

A Summer Internship Report

SUBMITTED TO

**International Management Institute** 

Bhubaneswar



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# **POST GRADUATE DIPLOMA**

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MANAGEMENT

By

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### **DECLARATION BY STUDENT**

I, Susim Kumar Acharya, bearing Institute Roll No. 19PGDM-BHU075, declare that the Summer Project titled "Designing floral product basket for different segment of customers" is my original work and completed under the supervision of Mr. Ujjwal Kumar Mahato of Tata Steel Utilities and Infrastructure Services Limited (formerly JUSCO) and Prof. Rohit Vishal Kumar of IMI Bhubaneswar. Further, I also declare that the report being submitted herewith is free of any textual plagiarism.

Signature:

Susim Kuman Achanya

Date: 11/07/20

Place: IMI Bhubaneswar

### To Whom It May Concern

This is to certify that Mr. Susim Kumar Acharya, Roll number 19PGDM-BHU075, a student of IMI, has successfully completed his Summer Internship Program project titled "Designing floral product basket for different segment of customers" under my guidance during April - June, 2020 and his summer training project is found to be Exceptional/ Very Good/ Good/ Satisfactory/ Unsatisfactory.

Guide

Signature: Name : Ujjwal Kumar Mahato Designation: Dy. Chief Manager HRIR, JUSCO

### APPROVAL OF THE FACULTY GUIDE

Recommended that the Summer Internship Report titled "Designing floral product basket for different segment of customers" prepared by Mr. Susim Kumar Acharya under my/ our supervision and guidance be accepted as fulfilling this part of the requirements for the award of Post Graduation Diploma in Management. To the best of my/ our knowledge, the contents of this report did not form a basis for the award of any previous degree/ diploma to anybody else.

Date:

Signature:

Name of the guide:

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# Chapter 1: Executive Summary

At the present time, demand for floral products is tremendously increasing. People buy floral products either for decorative or gifting purpose. Different people have different taste, so, it is very important for the marketer to understand customers' psychologies to be able to offer the best product.

The study has been initiated by collecting responses from over 100 respondents through questionnaire. There were questions that helped to understand various factors that affects customers' choice while they make a purchase decision for floral products like cultural, psychological, personal and socio-economic factors. Also, a pilot testing has been done followed by validity and reliability check.

The next step, probably the most crucial step in the study, was to make customer segments. Customer segmentation helps in making distinction among customers and also in determining their needs and requirements based on various parameters. It allows marketers to know about their customers in detail and also, it enables them to save their costs, time and other resources. Therefore, customer segmentation has been done using cluster analysis in SPSS. This has been done using both hierarchical clustering (using Wards's method) and non-hierarchical clustering (using K-means algorithm). In this way, five different segments have been made on the basis of five different factors: age, qualification, locality in which the respondent lives, desire in life and hobby of the respondent.

The next step was to determine how different customer segments value the features of different floral products (flower plants as well as tree saplings). There are segments that give utmost importance to the color or size of a flower, whereas, for some other segment the fragrance or prices of the floral products are the core requirements. Therefore, it was crucial to determine the value or importance of each feature to all the five customer segments. This has been done using Kotler's five product levels model. It must be noted here that "potential product" has not been considered in this study as these floral products need not go any future transformation.

Once it has been determined how different customer segments value different floral product features, the next step was to identify different flower plants and tree saplings that meets the needs and requirements of these segments. In this step, first of all data regarding different features of plants and trees available have been obtained (refer to table 5) by contacting the concerned person in the horticulture department of the company. Now, by the process of filtering through pivot table in Excel, different products have been identified for all segments that matches exactly to their needs and preferences.

With this, the main objective of the study has been fulfilled, i.e. to identify floral products for different customer segments. At last, so as to check how much the study was successful in identifying products for different segments that meets their requirements. a process of revalidation was followed (refer to table 9) in which approximately 50% of respondents from each segment were requested to rate the floral products identified for them. It was determined that all the responses received were in the zone of "satisfied" whereas 71% of the responses were in the zone of "very satisfied". Hence, the study could be generalized to a large population.

### **Chapter 2: Introduction**

### 2.1 Preamble

Floral products are becoming a very important part of human beings day by day. Hence, demand for the same is getting increased at a very fast pace in recent times. In relation to this, different customer segment prefers different types of floral products. Customers prefer different flowers for different occasions. In other words, they prefer a flower that suits their requirements at a certain point of time. Hence, understanding their psychology plays a vital role here. It is very important to understand what a customer looks for in a product, what are his / her basic requirements. Determining the said requirements, different product features are to be identified that suits the need of a customer segment. There may be a segment of customers who gives utmost priority to the size of a flower; some may prefer brightness of the flower above all other product features while some are most concerned about the price of that particular floral product and the same goes on. The price should be within their budget then only customers would proceed and look for other features of the product. As a result, it becomes a tough task for the seller to categorize customers based on their buying behavior. By this, it means that the buying behavior of customers is affected by various factors like social, cultural, psychological and personal and availing products based on these factors is a challenge for sellers. Further categorizing customers based on their buying behavior and other factors would help in fitting different product features/ properties for different set of customers. Hence the aim to serve this whole purpose is to develop or design a floral product basket for different segment of customers. The basket would consist of all such products for which a customer segment would be willing to pay and would derive all properties or features that they are looking for in a product.

### 2.2 Need for the study:

Apart from its important functions, Tata Steel Utilities and Infrastructure Services Limited also own a large nursery in Jamshedpur, popularly known as Bagicha. This nursery deals with a wide variety of seedlings, saplings and other floral products. There is a huge demand for floral products by people and day by day there is a surge in its demand. Different people have different preferences while purchasing any floral product. There are a wide range of factors that affect their buying decision like the attractiveness of the flower, its size, color choice, choice for the pattern of flower, their likeness for greenery, etc. Also, the key factor that affects their buying decision is their willingness to pay for decorative items, whether for permanent or temporary articles. Therefore, the aim of this study is to design such floral products which has the same features as desired by customers. Different products are to be designed for different customer segments depending on their preferences and choices.

# Chapter 3: Objective of the Study

The important objectives of this study are:

- To understand various psychologies of customers:
  - Different customers have different perception while purchasing floral or any other products. These psychologies could be due to reasons of cultural, social or personal environment of the people.

### • To identify basic product need of customer:

- It is very important to make out the basic customer needs. Generally customers demand a lot of features in any particular product but from that it is very important to identify such features of a product that would satisfy his/ her basic requirement.

# • To fit characteristics or features of floral products into different categories/ levels of product design:

 Since different customers have different requirements for a particular floral product. Some people are there who want some specific features in the product while some are there who are in need of some other features from different floral product. To satisfy the same requirement of customers, product design is necessary to fit different product features for different set of customers and hence this is known as customer segmentation.

### • To categorize customers based on factors affecting their consumer behavior:

 Consumer behavior is affected by a large number of factors such as cultural, social, personal or psychological. Based on these differences, a particular basket of floral products is designed so that it meets the requirement of all such customers who share a common perception or in other words, have a common buying behavior.

### • To fit product properties in different customer categories:

- Segmenting customers would help in fitting different product features/ properties for different set of customers. As a result of this, customers would be willing as well and able to buy a particular floral product basket that would be designed suiting their requirement or demand.

# Chapter 4: Concepts or models introduced in the study

Understanding customer's requirement or need is crucial for any seller or manufacturer. Its product or service won't succeed in the market unless it is aware of what the customers are seeking in a product or service. Additionally, it is not at all an easy task to understand their needs or utility that customers want to derive from the consumption of any product or service.

In the same way, determining customer's desire for a floral product is equally important for a floral product seller. The seller needs to know the most important feature that the buyer is looking for while purchasing floral product. In other words, the seller needs to know the core requirement for any feature or property of the floral product that the customer is looking for. It means that keeping all other features of the product apart, there would be one such feature which is of first priority to the customer. If the said feature exists in a product then only the customer would look for other features as well and thus proceed to purchase. The features in a floral product may be the size of flower, its fragrance, color choice, choice for the pattern of flower, brightness of the flower and so on. Let us suppose there are two customers, A and B. The core requirement or the most important feature that customer A is looking for is the size of flower (less than 1 inch, less than 3 inch, etc.) while customer B gives first priority to the pattern of flower (spiral, hypnotic, etc.). Now, if customer A gets all other features in the floral product but doesn't get the flower of desired size then he/ she would not prefer to buy that particular product. In the similar manner, if customer B gets all other features but not the desired pattern of flower then he/ she would also end up not buying it. Therefore understanding the core benefit that customer wants to achieve is of utmost importance.

Hence, **Kotler's Five Forces Product Model** is one such model which is helpful in determining from core need to the emotional need that customers seek from a product. This model suggested three drivers as to how customers attach or find value in a product. They are as following:

- Need: want or absence of basic requirements
- Want: a certain specific requirement to satisfy basic needs
- Demand: desire as well as ability to buy a product

Basically, the five product levels are as following:

- i) Core benefit
- ii) Basic product
- iii) Expected Product
- iv) Augmented Product
- v) Potential Product

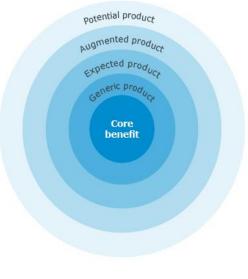


Figure 1: Kotler's five product levels model

In this study, this model has helped in matching different product features to different category of customers. Different customer segments have been made for floral products. There were around eight features; some of them are the flower size, fragrance, color choice, preference for brightness of flower, preference for pattern, greenery, etc. From the results that have been obtained, it has been seen that while flower size is a core benefit to one customer segment, it is an expected product for the other. In the same way, while brightness of flower is an augmented product for one customer segment, it is a basic product for some other segment of customer.

From this it can be determined that customer segment who wants brightness of flower as a core benefit means that it is the fundamental want or requirement that must or compulsorily be there which would provide utility to that customer segment. It is the most crucial or primary feature that customers give utmost priority, other features being secondary for them.

In a similar way, suppose size of flower is a basic product for that particular customer segment. Then, the brightness of flower being a primary requirement, the next feature that is demanded is the size of flower. In other words, that segment of customers look into the size of flower as a characteristic which is necessary for it to function the core benefit as brightness of flower.

Now, looking into the expected product, the customer segment may want pattern of flower as the expected product. From expected product, it means a particular set of characteristics which are normally expected by buyers when they purchase a product. A customer segment may want a pattern of flower and treat it as an expected product.

Augmented product may be referred to as a feature that a customer segment looks upon as an added advantage with the help of which the product can be differentiated from its competitors.

# Chapter 5: About the company



Jamshedpur is a large city in the eastern state of Jharkhand and is lying between Subarnarekha and Kharkai rivers. The city was founded in the year 1907 by Jamshetji Tata and was named after him. According to recent reports in the year 2019, Jamshedpur bagged the first position as the cleanest city in India.

Jamshedpur is the first industrial city of the country and most populous urban city in the state of Jharkhand. It is a home for major industrial companies such as Tata Motors and Tata Steel and for this reason Jamshedpur is known as the 'Steel City of India'.

Tata Steel which was formerly known as Tata Iron& Steel Company (TISCO) is one of the top notch steel manufacturer in the world. Its largest plant is located in Jamshedpur, Jharkhand. Tata Steel Utilities and Infrastructure Services Limited (formerly JUSCO- Jamshedpur Utilities Services Company) is a subsidiary of Tata Steel. The company was founded in the year 2004 and the basic purpose of this company is to provide 'quality services for life'. The company's services include Power Distribution, Operation& Maintenance, Township Management, Engineering Construction Procurement and Real Estate. The company is doing everything to provide the best value infrastructure and utility services. Its activities include construction and maintenance of roads, providing water, electricity, etc. to all residents of Jamshedpur. Today, this is the only company in India providing the urban infrastructure to all its residents. The company thrives to provide quality services to improve the quality of life of its people. Alongside, the company works for various civic or municipal bodies, small and large industries, individuals and communities to fulfill value through sustainable solutions. The company ensures to face various challenges faced by surge in urban growth; aspiration for best quality life and a world class city in India have been met in a progressive manner. It focuses to manage various key urban amenities effectively and efficiently so as to make these services available and makes sure that these are also reasonably priced even to the last consumer.

### 5.1: Key personnel in the company (Board of Directors)

| Mr. Chanakya Chaudhary   | Chairman             |
|--------------------------|----------------------|
| Mr. Sanjay Ubale         | Director             |
| Mr. R. Ranganath         | Director             |
| Mr. Suresh Dutt Tripathi | Director             |
| Ms. Sunanda Lahiri       | Independent Director |
| Mr. Tapas Mitra          | Independent Director |
| Mr. Tarun Daga           | Managing Director    |

### Table 1: Key personnel in the company

### 5.2: Core business of the company



ENGINEERING, PROCUREMENT & CONSTRUCTION



POWER DISTRIBUTION



INTEGRATED TOWNSHIP MANAGEMENT





OPERATION & MAINTENANCE

### REAL ESTATE

Figure 2: Core business of the company

### **Chapter 6: Literature Review**

1) Type of floral product purchased & demographic characteristics and floral knowledge of consumers (Bridget K. Behe & Dennis J. Wolnick)

This study was conducted to determine the influence of demographic characteristics & floral knowledge on the type of floral product purchased. Various analyses have shown that the younger age group is the purchasers of fresh flowers while the majority of old age group is the purchasers of flowering plants. The older age group has more blooming plants in their homes. Blooming plants have healthy, attractive & energetic appearance. This study found out that demographic characteristic/ floral knowledge does not affect consumer's buying behavior. It means that their preference totally depends on their perception. For example, if a consumer wants an immediate output for any particular job done then this shows that he/ she would not wait for a longer time to let the flower grow. Also, it means that majority of the younger age group wants an immediate output and therefore they prefer to buy fresh flowers instead of flowering plants.

# 2) Floral product behavior & their influence on consumer floral purchase frequency (Li- Chun Huang)

This study was basically conducted to ascertain factors influencing consumer buying behavior of floral products. Analytical results done in this study have revealed that different behaviors like "using flowers as daily essentials" or "using flowers for the purpose of gifts" forced customers to become heavy users in the floral market. Any negative attitude towards floral products negatively affects floral purchase frequency. Once a customer forms this negative attitude, it becomes very difficult for the marketer to convert that negative attitude into positive one. Marketers try to find out the key issues that are resulting in such a negative attitude towards their products and accordingly work to satisfy the customer need. In the study, it was determined that promoting positive attitude towards flowers is essential in encouraging consumers to become flower users. Also, one more important thing was determined about the factors that influenced customers to purchase floral products frequently. The intended use of floral products for personal use or for the purpose of gifts made them to purchase more frequently. Therefore, this study would be helpful in my study while designing a floral product basket. Products can be designed in such a way that different customer segments purchase it mostly for the purpose of gifting it to someone or for personal use.

### 3) Floral consumption values for consumer groups with different purchase choice for flowers (Li-Chun Huang & Tzu- Fang Yeh)

This study was conducted to determine how consumption values of different segments leads to different purchase choice for floral products. It was to be determined whether there is any defined relationship between consumer's purchase choice for floral products and their consumption values. This study tried to address this problem through evaluating differences in

consumer's consumption values for floral products across different consumer groups having different purchase choices for different products. Results have shown that consumer groups who have different consumption values for floral products have different purchase choices for the same. They aren't directly related to each other.

In my study too, I have put certain questions in my questionnaire that shows different emotional or psychological aspects of consumers. It is not guaranteed that if two or more customers are buying the same floral product then they are buying it for the same purpose. The motive behind the purchase could be different depending upon floral consumption value to the customer.

# Chapter 7: Methodology

### Step 1:

To start with, a questionnaire has been prepared keeping in mind the needs, wants or requirements of customers in Jamshedpur. Basically, a customer's desire is to be understood to design products that cater to his/ her requirement. The questionnaire also included questions which helped to understand the psychology of customers. Hence, it can be said that this was also a kind of social research. Understanding customer's psychology for any product in the market is very important as it helps the manufacturer or seller to get an in-depth idea about the need or requirement of customer and thereafter it becomes easy for the seller to design products accordingly so that it fulfill or meet the needs of customers.

After preparation of the questionnaire, it was circulated to respective respondents and thereafter, pilot testing has been done. Pilot testing is a kind of small scale initial study so as to evaluate the feasibility of research project prior to any full scale research project. Pilot testing was done after all items in the questionnaire were properly coded.

After this both the validity and reliability of the questionnaire were checked.

Step 2:

•Validity of the questionnaire has been checked with the help of two methods:

i) **Face Validity:** The face validity has been done in view of respondents and the questions measured or explained the purpose for which they were designed. Few things have been kept in mind before framing the questionnaire and after the pilot testing was done, it has been observed that the questions fulfill the purpose that were thought of before designing the questionnaire.

ii) **Content Validity:** The content validity was done by the corporate guide as he examined all the questions were involved in the questionnaire that covers all aspects of the study.

• Reliability of the questionnaire has been tested using the 'Spearman-Brown Split Half Reliability Coefficient'. The value obtained for coefficient **Rxy=0.74**, which means all items in the questionnaire are positively and highly correlated.

In this way, both the validity and reliability of the questionnaire has been tested before proceeding further.

### Step 3:

After all the responses were received, the most important thing was to analyze all responses

and to categorize customers based on their inputs. Customers who share common characteristics were to be kept in the same group.

The main motive of this study was to design floral products for different segment of customers and for the same it was very important to categorize each customer correctly. Various processes have been looked upon for categorizing customers and lastly **cluster analysis** in SPSS was the best method available to categorize them.

Cluster analysis is a group of multivariate techniques whose primary purpose is to group objects based on the characteristics or features they possess. Here, the concept of variate is important to be understood as to how cluster analysis has mathematically produced the desired results in this study. This cluster variate represented a mathematical representation of the selected set of clustering variables which compared the respondents' similarities. It is important to be noted here that the respondents have been clustered on 5 different variables, viz. their age, qualification, locality they stay in, their desire in life and their various hobbies.

### Step 4:

After this, it was crucial to determine which clustering algorithm would be suitable for the study. It can be done in three ways as following:

- i) Hierarchical clustering,
- ii) Non- hierarchical clustering, or
- iii) Combination of both hierarchical and non-hierarchical clustering methods

In this study, a combination of both the methods has been selected as the clustering algorithm. **Hierarchical clustering** has been done through the Ward's linkage method. This procedure has been chosen for hierarchical clustering as it tends to combine clusters with a small number of observations because the sum of squares is related directly to the number of observations involved. Ward's method has been selected because of it has tendency to generate clusters which are homogeneous & relatively equal in size. Another good feature of this method is that it helps in minimizing small clusters or outliers.

After working on Ward's method, a dendogram has been obtained through which the approximate number of clusters to be made was determined. A dendogram helps in determining appropriate number of clusters that are to be made. It is a final perspective on the agglomeration process and it is a tree- like structure that explains every stage of clustering process. The graph is scaled so that combinations which are at a closer distance indicate greater homogeneity. In this way, it was ascertained that how many clusters would be appropriate for this study. Through dendogram, it was ascertained that approximately five clusters are to made for this research study.

In this way, after hierarchical clustering was done and approximate numbers of clusters were determined the process has to be taken further with the help of **non-hierarchical clustering**. No tree-like construction processes are involved in non-hierarchical clustering. Instead, they have assigned objects into clusters after the number of clusters has been determined. Non-

hierarchical clustering was done through k-means algorithm which is the mostly used nonhierarchical algorithm. This functions on the basis of number of clusters specified by the user. Hence, as the approximate number of clusters was determined to be five in hierarchical clustering, the number of clusters, under non-hierarchical clustering was specified to be five.

In this way, all the cases/ respondents have been assigned to their respective clusters. All the respondents of this study were divided into five clusters or categories depending upon similarities that they share.

As five clusters have been created, respondents belonging to the same cluster are being kept together. All variables included in the clusters were statistically significant at 95% confidence interval. Now the next step was to categorize respondents based on their need and desire for floral products.

### Step 5:

**Kotler's five product level model** has been used to categorize customers on the basis of their desire for floral products. The five product levels are as following:

- i) Core benefit
- ii) Basic product
- iii) Expected Product
- iv) Augmented Product
- v) Potential Product

It should be noted here that potential product has not been considered in this study as floral products need not undergo any augmentation and transformations in future. The basic purpose of the study is to design a floral product basket but transforming the product is not required at present in this study and for this reason potential product has not been considered.

The model helped in matching each product feature to different category of customers. Each customer segment has different priorities for different product features. Some prefer the size of flower to be most important while other prefer the brightness or fragrance of flower to be most important.

This has been done after doing all workings in MS-Excel as which is the product feature that a particular customer segment is demanding the most. The product feature representing the highest percentage of respondents is the core benefit to that customer segment while the feature representing the least percentage of respondents means that it is an augmented product or the feature less demanded by that particular customer segment. Let us take an example. It was observed that 'greenery' was the core benefit for category A customer segment. This means a majority of the respondents belonging to customer category A prefers greenery first rather than any other floral product feature such as color, size, fragrance or budget. At the same time, for the same customer category A, fragrance and budget are augmented product. This

means that they are not much concerned about the fragrance and budget. They are more concerned about the greenery and brightness of the flower.

With the help of this concept of five product level model, it was observed that while greenery is a core benefit to category A, it is either an expected or augmented product for categories C, D or E. Similarly, while size of a flower is a core benefit for category B, the color of flower or greenery may be an expected product for it. This means that the product features which are a core benefit for any customer segment, for example, fragrance of flower, it means that fragrance is the fundamental want or requirement that must or compulsorily be there which would provide utility to that customer segment. It is the most crucial or primary feature that customers give utmost priority, other features being secondary for them. It can be seen that the budget or pattern of flower are augmented product for certain customer segments. This means that after the basic or core requirements are getting fulfilled, the customer may see something in the product which is praiseworthy. This augmented product here is therefore referred to as customer delight. But this customer delight or augmented product for any feature is the least demanded one as customers always want to first fulfill their core requirements from any product.

In this way, with the help of Kotler's five product level model, each product feature has been assigned to each customer category in terms of core benefit, basic product, expected product and augmented product.

### Step 6:

The last second step was to match each customer segment with different features of the floral product. Data has been obtained like size, color, price, maintenance cost, maintenance time, space required, fragrance, etc. of various flower plants and tree saplings from the concerned person in the horticulture department of the company. Each product feature suiting the needs or desires of each customer segment was matched accordingly. Suppose a customer category A wants a flower size which should be less than 3 inch and the desired fragrance be sweet. Accordingly, each flower plant or tree sapling which has the same characteristic or feature as desired by the customer category A has been matched along with it. This means that the size of that particular flower size is less than 3 inch and its fragrance is also sweet. In this way around 10 flower plants and 10 tree saplings have been matched with respect to all five customer segments.

### Step 7:

At last, re-validation of the study was done so as to ensure how much the study was able to match the floral products to the requirement of all five customer segments. Different floral products have been designed for each customer segment and respondents were asked to rate each product on a scale of 10 as to how much the designed floral products match their desire or requirements.

# Chapter 8: Tabulation and findings

First of all, the validity and reliability of the questionnaire were checked which as these are the most important part as they help in ascertaining whether the study should be conducted into a full scale research project.

•Validity was checked through two different methods:

i) Face Validity

ii) Content Validity

• Reliability of the questionnaire was checked through the **Spearman-Brown Split Half Reliability** coefficient. The value of coefficient was determined to be **Rxy=0.74** which means that all items or questions in the questionnaire are positively and highly correlated.

» In general, the degrees of correlation are determined as following:

i) Perfect: If the value obtained is nearly ±1, then it is perfectly correlated.

**ii) High degree:** If the coefficient value lies between  $\pm 0.50$  and  $\pm 1$ , then it is said to be a strong correlation.

iii) Moderate degree: If the value lies between  $\pm$  0.30 and  $\pm$  0.49, then it is said to be a medium correlation.

iv) Low degree: When the value lies below + .29, then it is said to be a small correlation.

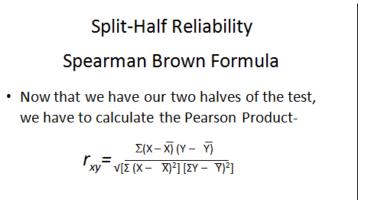
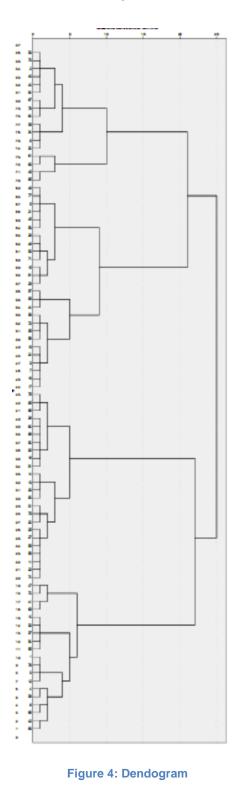


Figure 3: Spearman Brown split half reliability

Once the responses of all respondents were received through questionnaire, the main target was to develop clusters out of all the 86 respondents. The clustering algorithm selected was the combination of both hierarchical and non-hierarchical clustering methods.

Hierarchical clustering has been done through the Ward's linkage method. After working on Ward's method, a dendogram has been obtained through which the approximate number of clusters to be made was determined. The dendogram obtained can be seen in this figure:



From this dendogram, it can be seen that the SPSS software suggested approximate number of clusters to be five. Accordingly, after hierarchical clustering was done and approximate numbers of clusters were determined the process has to be taken further with the help of non-hierarchical clustering. This method was done through the k-means algorithm. As the approximate number of clusters was determined to be five in hierarchical clustering, the number of clusters, under non-hierarchical clustering was specified to be five.

The validity of k-means cluster analysis has also been tested so as to determine that the numbers of clusters chosen are appropriate. It is known that basically the validation has to be done for five clusters. But the validation has also been checked for four and six clusters. From the results obtained, it has been seen that when the numbers of clusters specified are five, the clusters are more distinct and significant.

|                       | Cluste      | r  | Error       |    |        |      |
|-----------------------|-------------|----|-------------|----|--------|------|
|                       | Mean Square | df | Mean Square | df | F      | Sig. |
| Zscore(Age)           | 9.785       | 4  | .566        | 81 | 17.281 | .000 |
| Zscore(Qualification) | 10.109      | 4  | .550        | 81 | 18.374 | .000 |
| Zscore(Locality)      | 9.133       | 4  | .598        | 81 | 15.263 | .000 |
| Zscore(Life_Desire)   | 14.872      | 4  | .315        | 81 | 47.221 | .000 |
| Zscore(Hobby)         | 11.465      | 4  | .483        | 81 | 23.729 | .000 |

ANOVA

### Table 2: Anova

Here, certain results have been derived under the non-hierarchical clustering method:

In this above table, the F-value of each of the five variables has been determined. It can be seen that the F-value of 'Life\_Desire' is highest (47.221) which means that this variable is making the cluster more distinct than the other. Higher is the F-value, more distinct the clusters are. In the same way, it can be seen that the F-value of 'Locality' is less than the other four variables (15.263). This means that this variable called 'Locality' is also making the cluster distinct but the level of distinctness of a cluster is a bit lesser in this case.

Here, the significance level is another important point that has to be looked upon. It can be seen that all the variables (age, qualification, locality, life desire and hobby) are statistically significant at 95% confidence interval.

#### Table 3: Distances between final cluster centers

| Cluster | 1     | 2     | 3     | 4     | 5     |
|---------|-------|-------|-------|-------|-------|
| 1       |       | 2.236 | 4.203 | 2.482 | 2.342 |
| 2       | 2.236 |       | 3.827 | 2.454 | 2.198 |
| 3       | 4.203 | 3.827 |       | 3.999 | 3.175 |
| 4       | 2.482 | 2.454 | 3.999 |       | 2.682 |
| 5       | 2.342 | 2.198 | 3.175 | 2.682 |       |

### **Distances between Final Cluster Centers**

With

the help of this table, the distances between final cluster centers can be seen. Greater the distance between clusters, greater is the dissimilarity between them.

• It can be seen that cluster 1 and 3 have the largest difference. This means that these two clusters are most different than one another.

• Cluster 2 and 5 has the minimum difference. It means that these two clusters are less distinct than one another.

These relationships between different clusters can be determined through these final cluster centers. But as the number of clusters and variables increases, it becomes a bit difficult to determine these relationships between clusters.

### Kotler's Five Product Level Model:

This model has played a vital part in this study. With the help of this model, desires or requirements of all five customer segments for every product feature has been derived accordingly. Basically, the five product levels are as following:

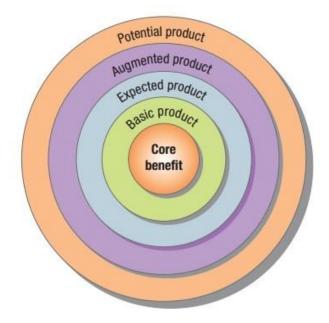


Figure 5: Kotler's five product levels model

Potential product has not been considered in this study as the floral products need not undergo any augmentation or transformation in future.

Here, each customer segment has different priorities for different product features. For example, customer category A may prefer size of the flower to be the most important feature in a flower plant while other customer segment B may prefer pattern of the flower to be the most important feature. This means that other features are secondary to them. They would buy the floral product, whether flower plant or tree sapling, only if their core requirements or criteria are met. In other words, suppose a segment of customers prefer rounded pattern of flowers the most and it is their core requirement, then they would purchase the floral product only if it is round in shape. They would not consider the size, fragrance or color at the first place. They would give utmost importance to the pattern of the flower.

All these calculations have been made in MS-Excel as which is the product feature that a particular customer segment is demanding the most. The product feature representing the highest percentage of respondents is the core benefit to that customer segment while the feature representing the least percentage of respondents means that it is an augmented product or the feature least demanded by that particular customer segment.

 Table 4: Levels of product design according to Kotler's five product model

| Customer<br>Category  | Category A   | Category B  | Category C                          | Category D   | Category E  |
|-----------------------|--|---|-------------------------------------|--|---|
| Product<br>Feature    |  |   |                                     |  |   |
| Size                  | EP   | BP  | СВ                                  | BP   | BP  |
| Fragrance             | AP   | СВ  | СВ                                  | AP   | EP  |
| Brightness            | BP   | EP  | СВ                                  | СВ   | СВ  |
| Pattern               | EP   | AP  | BP                                  | EP   | AP  |
| Color                 | EP   | EP  | AP                                  | AP   | BP  |
| Greenery              | СВ   | EP  | EP                                  | AP   | AP  |
| Budget<br>(permanent) | EP   | BP  | СВ                                  | EP   | BP  |
| Budget<br>(temporary) | AP   | AP  | BP                                  | BP   | BP  |
|                       |  | CUSTOMER  | <b>CATEGORIES</b>                   |  |   |
| AGE                   | 19-25 & 26-<br>40  | 26-40 & 41-<br>60   | 26-40                               | 19-25, 26-40<br>& 41-60  | 12-18 & 19-<br>25   |
| QUALIFICAT            | Less than  | Less than   | Less than                           | Less than  | Less than   |
| ION                   | graduation &<br>less than<br>masters'<br>degree                                  | graduation,<br>less than<br>masters'<br>degree &<br>professional                              | 10th                                | graduation,<br>less than<br>masters'<br>degree &<br>professional                 | 12 <sup>th</sup> , less<br>than<br>graduation,<br>less than<br>masters'<br>degree |
| LOCALITY              | Society with<br>house on<br>purchased<br>land& single<br>flat complex<br>society | Society with<br>house on<br>purchased<br>land, Mohalla<br>& single flat<br>complex<br>society | Village                             | Society with<br>house on<br>purchased<br>land &<br>Mohalla                       | Society with<br>house on<br>purchased<br>land &<br>Mohalla                        |
| DESIRE                | Earn money<br>& value<br>development<br>in self                                  | Earn money<br>& value<br>development<br>in self   | Self<br>development                 | Earn<br>property,<br>serve to<br>deprived &<br>give<br>something to<br>community | Earn money,<br>value<br>development<br>in self &<br>serve to<br>deprived          |
| HOBBY                 | New creation,<br>travelling &<br>trekking  | Music, new<br>creation &<br>reading   | Music &<br>collecting<br>new things | Music,<br>outdoor<br>sports &<br>travelling                                      | Music,<br>reading &<br>indoor sports  |

Also, from these calculations it has also been determined that, for example, which size of flower is mostly preferred out of all the available sizes of flowers or which color of flower is mostly preferred out of all the available colors of flower.

All these options have been provided for various questions in the questionnaire so that the respondent can select their desired option and thereby the responses can easily be interpreted in the study.

In the previous page, from the table it can be clearly seen how five different clusters or categories of customers have been created and how each segment value different product features. This table has been prepared with the help of Kotler's five product levels model. Clusters have been made with the help of cluster analysis and then all respondents who share a common or similar preference for different product features have been clubbed together, thus making a category. Customer categories have been taken on the x-axis while product features have been taken on the y-axis. It can be seen that how the clusters have been prepared. Five different variables have been taken to make these clusters. They are: age, qualification, locality, life's desire and hobby. Combining all these five variables, five different clusters have been prepared.

**NOTE:** It should be noted here that "Budget (temporary)" refers to the budget that customers prefer to spend for flower plants while "Budget (permanent)" refers to the budget that customers prefer to spend for tree saplings.

Various interpretations are to be made for this table so as to understand it in a better way.

» Category A comprises of all those customers whose:

i) Age is between 19 to 40 years.

- ii) Qualification is less than graduation and less than master's degree
- iii) Residence is either in society with house on purchased land or single flat complex society
- iv) Desires are to earn money & value development in self
- v) Hobbies include new creation, travelling & trekking

• Greenery is the core benefit for this customer segment. This means that the flower plant or tree should be such that it suits the desired greenery of this customer segment. Greenery is the core requirement, it is the fundamental want that must or compulsorily be there which would provide utility to that customer segment. It is the most crucial or primary feature that customers give utmost priority, other features being secondary for them. It is the purpose for which the customer wishes to buy that particular floral product.

• Brightness of the flower is a basic product for this segment as it seems necessary for it to function the core benefit as greenery of the product.

• Size of flower, its pattern, color and budget for tree sapling are considered to be an expected product for this segment. It means that buyers normally want these features in a floral product when they purchase them.

• Budget for flower plant is an augmented product for this segment. It means that if customers are provided with the flower plants or tree saplings of the desired budget then it would delight them and would be an added advantage to their purchase. But generally, they are not considering budget at the first place during their purchase.

» Category B comprises of all those customers whose:

i) Age is between 26 to 60 years.

ii) Qualification is less than graduation, less than master's degree and professionals

iii) Residence is either in society with house on purchased land or single flat complex society or Mohalla.

iv) Desires are to earn money & value development in self

v) Hobbies include new creation, music and reading

• Fragrance is the core benefit for this customer segment. This means that the flower plant or tree should be such that it suits the desired fragrance of this customer segment.

• Size of the flower and budget for tree sapling are basic product for this segment.

• Brightness of the flower, greenery and color are an expected product for this segment.

• Budget for flower plant and pattern of flower are an augmented product for this segment. This means that these two features are the less desired feature in a floral product for this segment of customers.

» Category C comprises of all those customers whose:

- i) Age is between 26 to 40 years.
- ii) Qualification is less than 10<sup>th</sup>
- iii) Residence is in village
- iv) Desire is to value development in self

v) Hobbies involve music and collecting new things

• Fragrance, size of flower, brightness and budget for tree sapling are the core benefit for this customer segment. This customer segment gives utmost priority to these features while purchasing floral products.

- Pattern of the flower and budget for flower plants are basic product for this segment.
- Greenery is considered to be an expected product for this segment.

• Color is an augmented product for this segment. This means that these two features are the less desired feature in a floral product for this segment of customers.

» Category D comprises of all those customers whose:

- i) Age is between 19 to 60 years
- ii) Qualification is less than graduation, less than master's degree and professionals
- iii) Residence is either in society with house on purchased land or Mohalla
- iv) Desires are to earn property, serve to deprived & give something to community
- v) Hobbies involve music, outdoor sports & travelling

• Brightness is the core benefit for this customer segment. This customer segment gives utmost priority to these features while purchasing floral products.

- Size of the flower and budget for flower plants are basic product for this segment.
- Pattern of the flower and budget for tree sapling are an expected product for this segment.

• Color and fragrance of flower and greenery are an augmented product for this segment. This means that these two features are the less desired feature in a floral product for this segment of customers.

» Category E comprises of all those customers whose:

- i) Age is between 12 to 25 years
- ii) Qualification is less than 12<sup>th</sup>, less than graduation and less than master's degree
- iii) Residence is either in society with house on purchased land or Mohalla
- iv) Desires are to earn money, value development in self & serve to deprived
- v) Hobbies include music, reading & indoor sports

• Brightness is the core benefit for this customer segment. This customer segment gives utmost priority to these features while purchasing floral products.

• Size and color of the flower and budget for both flower plants and tree saplings are basic product for this segment.

• Fragrance of the flower is an expected product for this segment.

• Pattern of the flower and greenery are an augmented product for this segment. This means that these two features are the less desired feature in a floral product for this segment of customers.

Thus, after categorizing customers and determining which floral product feature are most crucial or important to them, i.e., features that serve either as a core benefit, basic product, expected product and augmented product to all the five category of customers; the next task was to match different floral product's features with the desires of different customer segments. The ultimate aim behind doing this task was to design such floral products that cater to the needs and desires of these customers. Both flower plants and tree saplings have been derived for all customer segments.

Data for different floral product features has been obtained by contacting the concerned person in horticulture department of the company. The table below shows the features of both flower plant and tree saplings as following:

#### Table 5: Features of flower plants

|        |               |       | -             |                |           |            |             |              |              |
|--------|---------------|-------|---------------|----------------|-----------|------------|-------------|--------------|--------------|
|        |               |       |               |                |           |            | MAINTENANCE |              |              |
|        |               |       |               | SIZE OF        |           |            | COST PER    | SPACING      | MAINTENANCE  |
| S.L NO | PLANT         | PRICE | COLOUR        | FLOWER         | FRAGRANCE | BRIGHTNESS | MONTH       | REQUIRED     | TIME (daily) |
| 1      | CHRYSANTHEMUM | 10    | PINK/WHITE    | 5 INCHES       | MILD      | SOBER      | 35          | 2ftX 2ft     | 5 minutes    |
| 2      | KALANCHOE     | 15    | PINK/RED      | 4 INCHES       | SWEET     | VIVACIOUS  | 20          | 1ftX 1ft     | 5 minutes    |
| 3      | VERBENA       | 15    | PURPLE/ RED   | 2 INCHES       | SWEET     | VIVACIOUS  | 15          | 1ftX 1ft     | 5 minutes    |
| 4      | COLEUS        | 20    | RED/GREEN     | 5 INCHES       | EXOTIC    | DULL       | 20          | 1ftX 1ft     | 3 minutes    |
| 5      | PORTULACA     | 10    | PINK/ RED     | 2 INCHES       | SWEET     | SOBER      | 20          | 0.5ftX o.5ft | 3 minutes    |
| 6      | ACALYPHA      | 20    | RED/GREEN     | >6"            | INTENSE   | SOBER      | 20          | 1ftX 1ft     | 7 minutes    |
| 7      | PLUMERIA      | 45    | WHITE/ YELLOW | 2 INCHES       | SWEET     | VIVACIOUS  | 30          | 1ftX 1ft     | 5 minutes    |
| 8      | ARECA PALM    | 30    | GREEN         | 5 INCHES       | MILD      | VIVACIOUS  | 10          | 1ftX 1ft     | 7 minutes    |
| 9      | IXORA         | 40    | PINK/ RED     | 4 INCHES       | SWEET     | SOBER      | 15          | 1ftX 1ft     | 3 minutes    |
| 10     | CROTON        | 100   | YELLOW/GREEN  | 2 TO 12 INCHES | MILD      | VIVACIOUS  | 20          | 1ftX 1ft     | 7 minutes    |
|        |               |       |               |                |           |            |             |              |              |

### Table 6: Features of tree saplings

|        |        |       |        |              | MAINTENAN |           |              |
|--------|--------|-------|--------|--------------|-----------|-----------|--------------|
|        |        |       |        | SIZE OF TREE | CE COST   | SPACING   | MAINTENANCE  |
| S.L NO | PLANT  | PRICE | COLOUR | PLANT        | PER MONTH | REQUIRED  | TIME (daily) |
| 1      | NEEM   | 40    | GREEN  | 1 FEET       | 130       | 3m X 3m   | 7 minutes    |
| 2      | MANGO  | 65    | GREEN  | 3,4 FEET     | 85        | 2mX2m     | 3 minutes    |
| 3      | PIPAL  | 50    | GREEN  | 1 FEET       | 90        | 3mX3m     | 3 minutes    |
| 4      | BAR    | 50    | GREEN  | 1 FEET       | 110       | 1.5m*1.5m | 3 minutes    |
| 5      | TEAK   | 60    | GREEN  | 2 FEET       | 80        | 2mX2m     | 4 minutes    |
| 6      | JAMUN  | 60    | GREEN  | 2 FEET       | 100       | 3m X 3m   | 7 minutes    |
| 7      | SEESAM | 60    | GREEN  | 2 FEET       | 115       | 3m X 3m   | 5 minutes    |
| 8      | KADAM  | 60    | GREEN  | 2 FEET       | 90        | 5mX5m     | 3 minutes    |
| 9      | ARJUN  | 85    | GREEN  | 2 FEET       | 120       | 5mX5m     | 3 minutes    |
| 10     | MAHUA  | 70    | GREEN  | 2 FEET       | 115       | 5mX5m     | 5 minutes    |

Data for ten flower plants have been obtained. It consists of various features of all ten flower plants. These features are as following:

- Price
- Size of flower
- Fragrance
- Brightness
- Maintenance cost per month
- Spacing required
- Maintenance time (daily)

Data for ten tree saplings have also been obtained. It consists of various features of all ten tree saplings. These features are as following:

- Price
- Size of flower
- Maintenance cost per month
- Spacing required
- Maintenance time (daily)

With the help of all these available data regarding the features of both flower plants and tree saplings, customer's desires, which has been obtained through the questionnaire, have been matched with them. For example, there is a customer who prefers a flower with a sweet smell, red color and whose size should be less than 6 inches. Accordingly, these desires of customer are to be matched with the available floral products. A flower that fulfills all these needs of the customer or consists of all these desired features of the customer (sweet smell, red in color and less than 6 inches in size) is to be designed and offered to him/ her.

There are many other features which have been matched keeping in view the response of customers. In our next table, which consists of all the final products designed for all five segments of customers, we will explain how those features have been matched with customer's desires.

 Table 7: Final product (flower and decorative plants) designed for different customer segments

| Customer<br>Category<br>Product<br>features | Category A                       | Category B                       | Category C                       | Category D                       | Category E                       |
|---|----------------------------------|----------------------------------|----------------------------------|----------------------------------|----------------------------------|
| Price (in<br>Rs.)                           | 10-50                            | 10-50                            | 10-50                            | 10-30                            | 10-30                            |
| Maintenance<br>cost (in Rs.)                | 10-35                            | 10-35                            | 10-35                            | 10-20                            | 10-20                            |
| Size  | Less than 6<br>inches            | Less than 3<br>inches            | Less than 6<br>inches            | Less than 6<br>inches            | Less than 3<br>inches            |
| Space<br>required                           | 0.5 ft*0.5 ft.<br>to 1 ft.*1 ft. | 0.5 ft*0.5 ft. to<br>1 ft.*1 ft. | 0.5 ft*0.5 ft.<br>to 2 ft.*2 ft. | 0.5 ft*0.5 ft. to<br>1 ft.*1 ft. | 0.5 ft*0.5 ft. to<br>1 ft.*1 ft. |
| Maintenance<br>time                         | 3 to 7<br>minutes<br>daily       | 3 to 7 minutes<br>daily          | 5 to 7<br>minutes daily          | 5 to 7 minutes<br>daily          | 3 to 7 minutes<br>daily          |
| Color                                       | Red                              | Red                              | Red, Yellow,<br>Green, Pink      | Red                              | Red                              |
| Fragrance                                   | Sweet                            | Sweet                            | Sweet                            | Sweet                            | Sweet                            |
| Brightness                                  | Sober                            | Vivacious                        | Vivacious                        | Sober, Vivacious                 | Sober                            |
| Final<br>Product                            | Ixora                            | Verbana                          | Areca Palm                       | Kalanchoe<br>Coleus              | Portulaca                        |
| Designed                                    |                                  | Portulaca                        |                                  | Areca Palm                       |                                  |

| Customer<br>Category<br>Product<br>features | Category A                 | Category B              | Category C                 | Category D                 | Category E                 |
|---|----------------------------|-------------------------|----------------------------|----------------------------|----------------------------|
| Price (in<br>Rs.)                           | 40-90                      | 40-70                   | 40-90                      | 40-70                      | 40-70                      |
| Maintenance<br>cost (in Rs.)                | 80-120                     | 80-100                  | 80-120                     | 80-100                     | 80-100                     |
| Size  | 1 ft. to 2 ft.             | 1 ft. to 2 ft.          | 1 ft. to 4 ft.             | 1 ft. to 2 ft.             | 1 ft. to 2 ft.             |
| Space<br>required                           | 1m*1mto<br>3m*3m           | 1m*1mto<br>3m*3m        | 1m*1mto<br>5m*5m           | 1m*1mto<br>3m*3m           | 1m*1mto<br>3m*3m           |
| Maintenance<br>time                         | 3 to 7<br>minutes<br>daily | 3 to 7 minutes<br>daily | 5 to 7<br>minutes<br>daily | 5 to 7<br>minutes<br>daily | 3 to 7<br>minutes<br>daily |
| Final                                       | Pipal                      | Pipal                   | Seesam                     | Seesam                     | Pipal                      |
| Product                                     | Bar                        | Jamun                   | Mahua                      | Bar                        | Teak                       |
| Designed                                    | Jamun                      | Teak                    | Jamun                      |                            | Jamun                      |
|   | Teak                       |                         | Mango                      |                            |                            |

Table 8: Final product (tree saplings) designed for different customer segments

The above table shows the final products (both flower plants and tree saplings) that have been designed for different customer segments. All the products designed for a particular customer segment matches with their desires. These desires of customers have been obtained from the responses that they have filled in the questionnaire. Everything has been tried to be explained in a precise way. Then too, explanation of some important points is required so as to understand this table in a better way:

• The price that a customer segment is willing to pay for both flower plants and tree saplings has been obtained from his/her responses and after few workings that have been done in MS-Excel.

• Maintenance cost has been kept in-lined with the price that a customer segment is willing to pay. If a customer is willing to pay a high price for any floral product then he/she would definitely be willing to pay a high maintenance cost too.

• The size of flower that a customer segment prefers has been derived from its response in the questionnaire. Whereas the preferred size of tree plant for customer segments has been obtained keeping in mind the locality in which they stay. If a particular customer segment is staying either in "society with house on purchased land" or "Mohalla" then they would prefer a mid-sized tree sapling that they can easily grow in their houses.

• Space required for the flower plant or the tree sapling to grow has been kept in-lined with the locality in which a segment of customers stay. This means that if a customer stays in a village then he/she would have ample of space to grow any kind of flower plant or tree sapling. There are few trees such as Kadam, Arjun and Mahua which requires a lot of space. A customer segment residing in village can easily desire to plant such tree saplings at his or her place.

• Maintenance time for the floral product has been decided for customer segments keeping in mind their life's desire. A question has been put in the questionnaire regarding customer's desire in life. For this, there were options like "earn money, earn property, value development in self, give something to community or serve to deprived". Desires like "valuing development in self" or "giving something to community" requires a long investment of time and a person willing to pursue the same desire would be able to invest more time daily for the maintenance of the flower plant or tree sapling. He/she has the patience to wait for the desired results. At the same place, earning money or property can be done in a quick way. There are different ways to earn these in a short span of time and there are chances that a person with same desire in life has high chances of investing short time for the same. Therefore the person would not like to invest more time everyday for the maintenance of floral products and hence they would prefer such floral products which requires less maintenance time.

• Color preference of all customers has been derived from the responses received in questionnaire.

• Flower's fragrance of all customer segments has been derived from the responses received in questionnaire.

• Flower's brightness of all customer segments has been derived from the responses received in questionnaire.

Applying these concepts helped to match every feature of floral products with the customer's requirements. It can also be considered as a filtering process where every desires of all the five customer segments has been matched along with available features and at last both flower plants and tree saplings have been derived which has the same features matching each customer segment's requirements.

### Re-validation of the designed floral products:

Re-validation has helped in determining how much the study was successful in designing floral products for different segment of customers according to their desires. Five different questionnaires were prepared for five different categories. These questionnaires consist of the flower plants and tree saplings that have been designed for the respective customer segments. Accordingly, few respondents from every segment were asked to fill their respective questionnaire so as to determine how much the study was successful in designing floral products keeping their desires in mind. Hence, they were asked to rate each product on a scale of 10 where, 0 represented "not satisfied at all" and 10 represented "highly satisfied". Respondents rated every product that were designed for them (or for their respective segment) and the average results or ratings obtained for every floral product would be explained as:

### Ratings were interpreted as under:

- Ratings between 0- 2.5: Extremely dissatisfied
- Ratings between 2.6- 5: Dissatisfied
- Ratings between 5.1-7.5: Satisfied
- Ratings between 7.6- 10: Extremely satisfied

Average ratings obtained for each floral product customer segment wise are as following:

| Catego  | ry A   | Category B |        | Category C |        | Category D |        | Category E |        |
|---------|--------|------------|--------|------------|--------|------------|--------|------------|--------|
| Product | Rating | Product    | Rating | Product    | Rating | Product    | Rating | Product    | Rating |
| Ixora   | 7.6    | Verbana    | 8.5    | Areca      | 7.8    | Kalanchoe  | 8.5    | Portulaca  | 6.4    |
| Peepal  | 7.1    | Portulaca  | 7.5    | Seesam     | 7.8    | Coleus     | 8.3    | Peepal     | 6.8    |
| Bar     | 5.7    | Pipal      | 7.5    | Jamun      | 8.3    | Areca      | 8.4    | Teak       | 7.6    |
| Jamun   | 6.9    | Jamun      | 7.9    | Mahua      | 8.3    | Seesam     | 8.3    | Jamun      | 7.2    |
| Teak    | 7.8    | Teak       | 8.5    | Mango      | 7.3    | Bar        | 7.9    |            |        |

### Table 9: Ratings received from re- validation

The above table shows the ratings obtained from every customer segment for their respective floral products. It can be seen that all the responses received are in the zone of "satisfied" and 71% of the responses are in the zone of "very satisfied". It means that the designed floral product basket has successfully matched with every customer segment. Hence, from these average ratings obtained, the study conducted could be considered good.

## Chapter 9: Conclusion

It was an enriching experience to work on this project. I got a chance to implement my classroom learning into a practical one. The main aim of this study was to design such floral products which has the same features as desired by customers. For this, different floral products have been designed for different customer segments depending on their preferences and choices. This will help, in a way, that whenever a customer goes to buy any floral product then the seller can easily offer him/ her the desired flower plant or tree sapling asking few questions to know which customer segment he belongs to.

The first objective of this study was to understand various psychologies of customers while they purchase floral products. There are various factors that affect a person's buying behavior such as cultural, social, personal or psychological factors. This objective was met by analyzing the responses of every respondent in the questionnaire. Going through the responses helped in understanding how consumer's buying behavior gets affected due to these factors. There are factors like the locality in which the respondents live or their neighborhoods or their desires in life.

The second objective of this study was to identify basic product need of customer while the third objective was to fit characteristics of floral products into different categories of customers. Both these objectives have been clubbed together for a better outcome. This serves as the purpose for which the customer is making a purchase. First of all to meet these objectives, cluster analysis has been done so as to form distinct clusters or customer segment. With the help of this technique, five different clusters have been made. After making clusters the next thing that was to be determined is that how each segment value different product features. There are many features that a customer desires while purchasing floral products like color of flower, its size, pattern of flower, fragrance, budget, etc. With the help of Kotler's five products level model, it was determined as which is the feature that is most important for the customer while buying floral products. The model helped in matching each product feature to different category of customers. Each customer segment has different priorities for different product features. The product levels that helped in identifying the preference of customers are as following (going from most priority feature to the least priority one)- core benefit, basic product, expected product and augmented product.

Fourth objective was to categorize customers based on factors affecting their consumer behavior. This means that all those customers or respondents should be grouped together and kept in the similar category. As discussed above, cluster analysis helped in making five distinct clusters. The variables involved in making clusters are: Age, qualification, desire in life, locality they stay in and hobbies of respondents.

The last objective was to fit product properties to different customer categories. Data for various features of floral products were obtained from the horticulture department of the company and finally those features were matched with the features desired by different customer segments. Thereby, different floral products have been designed which consists of all those features. The ultimate aim behind this objective was that, whenever a customer belonging to any customer segment visits the nursery to buy floral products, the seller can easily offer products to him/her that have been designed for them keeping in mind their requirements.

# Chapter 10: Recommendations

- There are many people who are living in the outskirts of the city. They don't find it feasible enough to travel long distance just for the sake of purchasing floral products. They have the willingness and ability to purchase but due to the distance factor they don't do so. Moreover, one thing that can be done by the company is that it can open new branches of its nursery at different locations of the city so that people can easily reach to the nursery which is close to their locations and hence purchase floral products. It would therefore help the company to increase its market share as well as the customer base.
- The nursery can also provide fertilizers as a combo pack with the floral products purchased by customers.

# Chapter 11: Appendices

# Questionnaire

|   | -  | From the following                   | , please sel  | ect the type o    | of neighbors a | round you *    |              |
|---|----|--------------------------------------|---------------|-------------------|----------------|----------------|--------------|
| Email address *   | (  | O Professionals                      |               |                   |                |                |              |
| Your email address  | (  | <ul> <li>Service man in I</li> </ul> | ocal industry |                   |                |                |              |
|   |    | O Small businessr                    |               |                   |                |                |              |
|   |    | Own profession                       |               |                   | ner etc.       |                |              |
| Age (in years) *  |    | Non professiona                      |               |                   |                |                |              |
| 0 12-18   |    |                                      | ar governmen  | t or private enig | , loyee        |                |              |
| O 19-25   |    |                                      |               |                   |                |                |              |
| O 26-40   |    | In future, what do                   | you expect    | out of yourse     | lf?(Rank them  | n: 1 to be mos | t and 5 to   |
| O 41-60   | ł  | be least) *                          |               |                   |                |                |              |
| O More than 60  |    |                                      | 1             | 2                 | 3              | 4              | 5            |
|   |    | Earn Money                           | 0             | 0                 | 0              | 0              | 0            |
| Qualification *   |    | Value                                |               |                   |                |                |              |
| O Less than 10th  |    | development in self                  | 0             | 0                 | 0              | 0              | 0            |
| C Less than 12th  |    | Serve to                             |               |                   |                |                |              |
| Less than Graduation  |    | deprived                             | 0             | 0                 | 0              | 0              | 0            |
| Less than Masters Degree                                      |    | Give something<br>to community       | 0             | 0                 | 0              | 0              | 0            |
| Professional Course   |    |                                      | 0             | ~                 | 0              | ~              | 0            |
| 0   |    | Earn Property                        | 0             | 0                 | 0              | 0              | 0            |
|   |    |                                      |               |                   |                |                |              |
| Among the following, in which type of locality do you stay? * |    |                                      |               |                   |                |                |              |
| O Village   |    | Among these,                         | the infrast   | ructure of vo     | ur house has   | which of the   | following? * |
| O Society with house on purchased land                        |    | Among mese,                          | ule initiasu  | ucture or yo      | ur nouse nas   | which of the   | rollowing:   |
| O Single flat complex/ multistory building                    |    | Terrace                              |               |                   |                |                |              |
|   |    | Balcony                              |               |                   |                |                |              |
| Which type of stay would you like? *                          |    | Lawn                                 |               |                   |                |                |              |
| O Open field  |    | Big window                           | vs            |                   |                |                |              |
| O Open built home   |    | Rooms(2/3                            | 3/4)          |                   |                |                |              |
| O Big flat complex society                                    |    | Courtyard                            |               |                   |                |                |              |
| O Simple hut  | 40 |                                      |               |                   |                |                |              |

| Hobbies (Rank them: 1 to be most and 9 to be least) *  |            |           |          |        |        |         | With whom do y | ou enjoy ya        | our time? (   | Rank them                             | n: 1 to be mo | st and 6 to I  | be least) *  |              |   |   |
|--|------------|-----------|----------|--------|--------|---------|----------------|--------------------|---|---------------------------------------|---------------|----------------|--------------|--------------|---|---|
|  | 1          | 2         | 3        | 4      | 5      | 6       | 7              | 8                  | 9   |                                       | 1             | 2              | 3            | 4            | 5 | 6 |
| Music  | 0          | 0         | 0        | 0      | 0      | 0       | 0              | 0                  | 0   | Professionals                         | 0             | 0              | 0            | 0            | 0 | 0 |
| Indoor<br>sports   | 0          | 0         | 0        | 0      | 0      | 0       | 0              | 0                  | 0   | Sports person                         | 0             | 0              | 0            | 0            | 0 | 0 |
| Outdoor<br>sports  | 0          | 0         | 0        | 0      | 0      | 0       | 0              | 0                  | 0   | Innovators                            | 0             | 0              | 0            | 0            | 0 | 0 |
| Reading  | 0          | 0         | 0        | 0      | 0      | 0       | 0              | 0                  | 0   | Business<br>person                    | 0             | 0              | 0            | 0            | 0 | 0 |
| Teaching   | 0          | 0         | 0        | 0      | 0      | 0       | 0              | 0                  | 0   | Travelers                             | 0             | 0              | 0            | 0            | 0 | 0 |
| New<br>creations   | 0          | 0         | 0        | 0      | 0      | 0       | 0              | 0                  | 0   | Speakers                              | 0             | 0              | 0            | 0            | 0 | 0 |
| Travel   | 0          | 0         | 0        | 0      | 0      | 0       | 0              | 0                  | 0   |                                       |               |                |              |              |   |   |
| Collecting<br>new O O O O O O O  |            |           |          |        |        |         |                |                    | In which of these fields are your friends indulged? * |                                       |               |                |              |              |   |   |
| things<br>Trekking   | 0          | 0         | 0        | 0      | 0      | 0       | 0              | 0                  | 0   | Business                              |               |                |              |              |   |   |
|  |            |           |          |        |        |         |                |                    |   | Teaching                              |               |                |              |              |   |   |
| Currently  | where d    | o vou st  | av? *    |        |        |         |                |                    |   | Entertainmen                          | t             |                |              |              |   |   |
| Currently, where do you stay? * O Flat but not in developed society Please select your likeness for greenery from the given by the select your likeness for greenery from the select your likeness for greenery for greenery for greenery for gree |            |           |          |        |        |         |                |                    |   |                                       |               | n the given li | st. (Rank th | nem: 1 to be |   |   |
| O       Flat but not in developed society       Please select your likeness for greenery from the given list. (Rank the most and 5 to be least) *         O       Built house on a land  |            |           |          |        |        |         |                |                    |   |                                       |               |                |              |              |   |   |
| O Flat in  | developed  | d society |          |        |        |         |                |                    |   |                                       | 1             | :              | 2            | 3            | 4 | 5 |
| Which type of work do you prefer to do? *  |            |           |          |        |        |         |                |                    |   | Wild forest                           | 0             | C              | )            | 0            | 0 | 0 |
| O Continuos  |            |           |          |        |        |         |                |                    | Valley with rivers                                    | 0                                     | C             | D              | 0            | 0            | 0 |   |
| O Periodic O Overtime  |            |           |          |        |        |         |                | Water<br>resources | 0   | (                                     | C             | 0              | 0            | 0            |   |   |
| O overall  | inc.       |           |          |        |        |         |                |                    |   | Trimmed<br>fields                     | 0             | (              | )            | 0            | 0 | 0 |
| After getti  | ing a sp   | ecific jo | ob don   | e, how | do you | want tł | ne outp        | ut or re           | sult? *   | Paddy fields<br>with paddy<br>growing | 0             | (              | C            | 0            | 0 | 0 |
| O Immed  | diate out  | put       |          |        |        |         |                |                    |   | <u></u>                               |               |                |              |              |   |   |
| O Wait fo  | or somet   | ime       |          |        |        |         |                |                    |   |                                       |               |                |              |              |   |   |
| O Longe  | r period   |           |          |        |        |         |                |                    |   |                                       |               |                |              |              |   |   |
| O Leave  | it to natu | ure/ situ | ation    |        |        |         |                |                    |   |                                       |               |                |              |              |   |   |
| O Forget   | that the   | re would  | d be any | output |        |         |                |                    |   |                                       |               |                |              |              |   |   |
|  |            |           |          |        |        |         |                |                    |   |                                       |               |                |              |              |   |   |
|  |            |           |          |        |        |         |                |                    |   |                                       |               |                |              |              |   |   |
|  |            |           |          |        |        |         |                |                    |   |                                       |               |                |              |              |   |   |
| 1  |            |           |          |        |        |         |                |                    | /   | 1                                     |               |                |              |              |   |   |

| Which cold<br>least) *          | or shade ( | do you l | ike in flo | wers?(Ra   | nk them: 1 | l to be mo   | ost and 8 f | to be     |   |
|---------------------------------|------------|----------|------------|------------|------------|--------------|-------------|-----------|---|
|                                 | 1          | 2        | 3          | 4          | 5          | 6            | 7           | 8         | Which size of flower do you prefer? *                                 |
| Red                             | 0          | 0        | 0          | 0          | 0          | 0            | 0           | 0         | O Less than 1 inch  |
| Blue                            | 0          | 0        | 0          | 0          | 0          | 0            | 0           | 0         | C Less than 3 inch  |
| Yellow                          | 0          | 0        | 0          | 0          | 0          | 0            | 0           | 0         | O More than 6 inch  |
| Green                           | 0          | 0        | 0          | 0          | 0          | 0            | 0           | 0         |   |
| Pink                            | 0          | 0        | 0          | 0          | 0          | 0            | 0           | 0         | Which type of fragrance do you prefer? *                              |
| Orange                          | 0          | 0        | 0          | 0          | 0          | 0            | 0           | 0         | O Sweet   |
| White                           | 0          | 0        | 0          | 0          | 0          | 0            | 0           | 0         | O Mild  |
| Purple                          | 0          | 0        | 0          | 0          | 0          | 0            | 0           | 0         | O Intense   |
| Please sele<br>1 to be mo       |            |          |            | nt type fr | rom the gi | iven list li | ikeness (F  | Rank them | C Exotic  |
|                                 | 1          |          | 2          | 3          | 4          | 5            | 6           | 7         | What is your choice for color brightness of flowers? *                |
| Tree<br>(straight)              | 0          | (        | 0          | 0          | 0          | 0            | 0           | 0         |   |
| Medium<br>size tree             | 0          | (        | 0          | 0          | 0          | 0            | 0           | 0         | O Sober   |
| Creeper                         |            |          |            |            |            |              |             |           | O Vivacious (lively)  |
| (plant<br>growing<br>along      | 0          | (        | 0          | 0          | 0          | 0            | 0           | 0         | Which pattern do you like in flowers? *                               |
| ground)<br>Shrub                |            |          |            |            |            |              |             |           |   |
| (small<br>woody                 | 0          | (        | 0          | 0          | 0          | 0            | 0           | 0         |   |
| plant with<br>several<br>stems) |            |          |            | •          | •          |              | •           |           |   |
| Herbs/<br>small                 | ~          |          | ~          | ~          | 0          | ~            | 0           | ~         |   |
| tender<br>plants                | 0          | (        | 0          | 0          | 0          | 0            | 0           | 0         | O Spiral pattern O Hypnotic pattern                                   |
| Grass                           | 0          | (        | 0          | 0          | 0          | 0            | 0           | 0         | Charles and the second  |
| Shady<br>plant                  | 0          | (        | 0          | 0          | 0          | 0            | 0           | 0         |   |
|                                 |            |          |            |            |            |              |             |           |   |
|                                 |            |          |            |            |            |              |             |           |   |
|                                 |            |          |            |            |            |              |             |           | O Lines pointing towards centre O Round and converging towards center |
|                                 |            |          |            |            |            |              |             |           |   |
|                                 |            |          |            |            |            |              |             | 42        |   |
|                                 |            |          |            |            |            |              |             |           |   |

Monthly, how much amount would you like to spend for house decorations? (in Rs.)

Permanent articles (decorative items that will remain for a longer time period) \*

Your answer

Temporary articles (decorative items that will remain for a shorter time period) \*

Your answer