



Brand Positioning Of Various Players In Landscaping Sector And Their Competitive Dynamics In Hyderabad Using Multi-Dimensional Scaling.

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ABSTRACT:

The study titled “Brand Positioning of Various Players in the Landscaping Sector and Their Competitive Dynamics in Hyderabad Using Multi-Dimensional Scaling” was conducted in Hyderabad, Telangana. This research aimed to map the brand positioning of key competitors of VRUKSHA KUTEERAM in the landscaping industry (covering both residential and institutional segments) and analyze their competitive landscape within the Hyderabad region. A structured survey was administered to 60 customers, encompassing both residential and institutional clients from different areas of the city. The survey employed a purposive and proportionate random sampling technique. The objective was to chart the competitive positioning of these firms as perceived by customers and to delineate their relative standings. The study utilized a similarity or dissimilarity approach to multidimensional scaling to position these landscaping companies. Respondents evaluated the companies on various attributes, with their ratings averaged to determine perceived dissimilarities. The analysis sought to identify the optimal number of dimensions for positioning these companies, considering solutions in 4-

dimensional, 3-dimensional, 2-dimensional, and 1-dimensional spaces. The 4-dimensional solution was selected as the most effective based on stress values, with dimensions including value for money, design, after-sales service, and ease of use.

Keywords: Multidimensional scaling, Brand positioning, Customer.

INTRODUCTION:

The landscaping industry encompasses the design, installation, and maintenance of outdoor spaces such as gardens, lawns, parks, and commercial areas. This sector significantly enhances the aesthetic appeal and functionality of residential properties, commercial buildings, parks, and public spaces. There is a growing trend among high-income clients to invest in aesthetically pleasing landscaping for rental homes, corporate offices, government buildings, and educational institutions. Recent years have witnessed steady growth in the landscaping industry, fueled by increasing disposable incomes, heightened environmental awareness, and a desire for well-maintained outdoor environments. According to Grand View Research, the global landscaping services market was valued at USD 312.55 billion in 2023 and is projected to grow at a compound annual growth rate (CAGR) of 6.4% from 2023 to 2030. One of the primary applications of multidimensional scaling in marketing is brand positioning. This technique involves mapping customer perceptions and positioning competing brands within a product or service category. Multidimensional scaling can be applied in one to five dimensions, using either metric or non-metric methods.

The findings from this study are expected to provide valuable insights for landscaping professionals and startups, helping them gauge customer satisfaction and anticipate future needs. Additionally, the study highlights potential opportunities for increasing income and employment within the landscaping sector.

MATERIALS AND METHODS:

This study was carried out in Hyderabad, Telangana, where Vruksha Kuteeram LLP is based. The research employed the similarity or dissimilarity method of multidimensional scaling to analyze the positioning of landscaping companies. Vruksha Kuteeram, along with nine other identified competitors, was assessed to determine how similarly or differently each company is perceived relative to others. Sixty respondents, including both residential and institutional customers, were randomly selected and asked to evaluate ten companies based on various attributes. Each respondent rated the companies on a scale from one to ten, and average scores were computed to determine perceived dissimilarities.

Attributes were selected, and the ten companies were plotted on a perceptual map based on consumer ratings. This map, representing consumer perceptions, is useful for strategically positioning new brands, identifying gaps in the current market, or repositioning existing brands. Although the method is straightforward, it may not fully capture the complexity of consumer perceptions. Multidimensional scaling, however, accounts for intricate interactions between attributes and brands, deriving dimensions that elucidate consumer evaluations.

Pairwise rating or ranking of distances was performed by each respondent, with average ratings used for preliminary multidimensional scaling analysis. The number of dimensions was determined by assessing stress values, which indicate the goodness of fit for each solution. The goal was to achieve a model with minimal stress, reflecting an accurate representation of brand positions in the fewest dimensions possible.

The landscaping companies analyzed in Hyderabad included:

1. Vruksha Kuteeram
2. Pragathi Greenlands
3. PR Landscapes
4. RRR Landscapes
5. Green Leaves Landscapes
6. Ikigai Landscapes
7. Sagar Elevation Decors
8. Elumalai Landscapes
9. Envision Landscapes
10. Naveen Associates

RESULT:

Distance Matrix: Table 1.1 presents the input data, reflecting the distances between landscaping companies as calculated from customer ratings on various attributes. The ratings, averaged across respondents, were used to compute these distances using the correlation function in SPSS software. This symmetrical 10x10 matrix features both rows and columns representing the landscaping companies, with the matrix body displaying the perceived dissimilarity between them. For instance, the distance of 0.347 in row 4, column 1, indicates the perceived difference between Company 4 (RRR Landscapes) and Company 1 (Vruksha Kuteeram). Both row and column indices denote the landscaping companies. Data collection options include:

- Analyzing each customer's distance matrix separately using multidimensional scaling.
- Averaging ratings across respondents to construct a single distance matrix.

In this study, ratings were aggregated under the assumption of respondent homogeneity.

Table 1.1 proximity matrix showing dissimilarity between pairs of landscaping companies

	Euclidean Distance									
	VRUKSH KUTEERAM	PRAGATHI GREENLANDS	PR LANDSCAPES	RRR LANDSCAPES	GREENLEAVES LANDSCAPES	IKIGAI LANDSCAPES	SAGAR ELEVATION DECORS	ELUMALAI LANDSCAPES	ENVISION LANDSCAPES	NAVEEN ASSOCIATES
VRUKSH KUTEERAM	0.000	.198	.212	.347	.401	.226	.178	.442	.079	.179
PRAGATHI GREENLANDS	.198	0.000	.268	.382	.452	.162	.139	.375	.208	.212
PR LANDSCAPES	.212	.268	0.000	.516	.581	.365	.306	.476	.147	.305
RRR LANDSCAPES	.347	.382	.516	0.000	.094	.240	.275	.656	.389	.232
GREENLEAVES LANDSCAPES	.401	.452	.581	.094	0.000	.318	.353	.686	.452	.308
IKIGAI LANDSCAPES	.226	.162	.365	.240	.318	0.000	.067	.485	.254	.128
SAGAR ELEVATION DECORS	.178	.139	.306	.275	.353	.067	0.000	.473	.194	.097
ELUMALAI LANDSCAPES	.442	.375	.476	.656	.686	.485	.473	0.000	.471	.526
ENVISION LANDSCAPES	.079	.208	.147	.389	.452	.254	.194	.471	0.000	.190
NAVEEN ASSOCIATES	.179	.212	.305	.232	.308	.128	.097	.526	.190	0.000

Positioning of Landscaping Companies with Dimensions: Tables 1.2 through 1.9 display the outputs from multidimensional scaling. The primary objective is to identify the optimal number of dimensions for the best solution. This decision is based on stress values for various dimensional solutions. The stress values obtained were as follows:

- 0.00309 for the 4-dimensional solution (Table 1.2)
- 0.00703 for the 3-dimensional solution (Table 1.4)
- 0.26240 for the 2-dimensional solution (Table 1.6)
- 0.12856 for the 1-dimensional solution (Table 1.8)

The 1-dimensional solution is inadequate, as its stress value indicates a poor fit. Similarly, the 2-dimensional solution is less effective due to its higher stress value. The 3-dimensional solution shows promise, but the 4-dimensional solution is preferred due to its stress value being closest to zero. Selecting the most interpretable solution involves balancing stress values with dimensionality.

4-Dimensional Solution for Positioning Landscaping Companies: The 4-dimensional solution was selected based on its favorable stress value. Dimensions were named based on customer perceptions, market knowledge, and survey results. The chosen dimensions are:

- Dimension 1: Value for Money
- Dimension 2: Design
- Dimension 3: After-Sales Service
- Dimension 4: Ease of Use

Analysis reveals that Vruksha Kuteeram and Envision Landscapes excel in "Ease of Use," Ikigai Landscapes, Sagar Elevation Decors, and Naveen Associates are strong in "After-Sales Service," Green Leaves Landscapes and RRR Landscapes lead in "Design," and Elumalai Landscapes, PR Landscapes, Pragathi Greenlands, and Vruksha Kuteeram perform well in "Value for Money."

3-Dimensional Solution: The 3-dimensional solution, shown in Fig. 1.1, can be visualized on a 3D graph, illustrating company clusters based on perceived similarity. Companies 1 and 9, 2 and 10, 4 and 5, and 6 and 7 are perceived as similar. The 3-dimensional solution loses some information from the fourth dimension (Ease of Use), which could be significant in certain contexts. Thus, a 4-dimensional analysis is preferable if the stress values support it.

2-Dimensional Solution: The 2-dimensional solution, depicted in Fig. 1.2, provides a simplified graphical representation. Companies 1 and 9, 2 and 10, 4 and 5, and 6 and 7 are clustered based on perceived similarity. This solution loses information from the third and fourth dimensions (After-Sales Service and Ease of Use). While simpler, it may omit critical details. Therefore, the 4-dimensional solution is recommended over the 2-dimensional one when stress values indicate it.

Table 1.2 Iteration history for the 4-dimensional solution (in squared distances)

Young's S-stress formula 1 is used.

Iteration	S-stress	improvement
1	.00257	

Iterations stopped because S-stress is less than .00500

Stress and squared correlation (RSQ) in distances

RSQ values are the proportion of variance of the scaled data (disparities) in the partition (row, matrix, or entire data) which is accounted for by their corresponding distances.

Stress values are Kruskal's stress formula 1.

For matrix
Stress = .00309 RSQ= .99995

Table 1.3 Configuration derived in 4-dimensional Stimulus Coordinates

Stimulus number	Stimulus name	Dimension 1	Dimension 2	Dimension 3	Dimension 4
1	Vruksha Kuteeram	.3970	-.5482	-.6182	.3560
2	Pragathi Landscapes	.8030	.1707	.7710	.0661
3	PR Landscapes	1.5796	-1.6852	-.2642	-.2636
4	RRR landscapes	-2.3452	.3980	-.1062	-.0477
5	Green Leaves Landscapes	-2.7356	.8261	-.6854	-.0544
6	Ikigai Landscapes	-.5230	.3270	.8032	.1167
7	Sagar Elevation decors	-.2019	-.0889	.6454	.0881
8	Elumalai Landscapes	3.0443	2.1325	-.3863	-.0898
9	Envision Landscapes	.6162	-1.0995	-.3636	.1637
10	Naveen Associates	-.6345	-.4324	.2045	-.3351

Table 1.4 Iteration history for the 3-dimensional solution (in squared distances)

Young's S-stress formula 1 is used.

Iteration	S-stress	improvement
1	.00448	

Iterations stopped because S-stress is less than .005000

Stress and squared correlation (RSQ) in distances

RSQ values are the proportion of variance of the scaled data (disparities) in the partition (row, matrix, or entire data) which is accounted for by their corresponding distances.

Stress values are Kruskal's stress formula 1.

For matrix

Stress = .00703 RSQ= .99976

Table 1.5 Configuration derived in 3 dimensions Stimulus Coordinates

Stimulus number	Stimulus name	Dimension 1	Dimension 2	Dimension 3
1	Vruksha Kuteeram	.3455	-.4770	-.5379
2	Pragathi Landscapes	.6987	.1485	.6708
3	PR Landscapes	1.3744	-1.4663	-.2299
4	RRR landscapes	-2.0405	.3463	-.0924
5	Green Leaves Landscapes	-2.3802	.7188	-.5964
6	Ikigai Landscapes	-.4551	.2845	.6988
7	Sagar Elevation decors	-.1757	-.0774	.5616
8	Elumalai Landscapes	2.6488	1.8555	-.3362
9	Envision Landscapes	.5361	-.9567	-.3164
10	Naveen Associates	-.5520	-.3762	.1779

Table 1.6 Iteration history for the 2-dimensional solution (in squared distances)

Young's S-stress formula 1 is used.

Iteration	S-stress	improvement
1	.03283	
2	.02634	.00649
3	.02413	.00221
4	.02263	.00149
5	.02140	.00123
6	.02028	.00112
7	.01921	.00107
8	.01818	.00103
9	.01720	.00098

Iterations stopped because S-stress improvement is less than .001000

Stress and squared correlation (RSQ) in distances

RSQ values are the proportion of variance of the scaled data (disparities) in the partition (row, matrix, or entire data) which is accounted for by their corresponding distances.

Stress values are Kruskal's stress formula 1.

For matrix

Stress = .02624 RSQ = .99727

Table 1.7 Configuration derived in 2-dimensions Stimulus Coordinates

Stimulus number	Stimulus name	Dimension 1	Dimension 2
1	Vruksha Kuteeram	.3041	-.4866
2	Pragathi Landscapes	.6341	.1578
3	PR Landscapes	1.1864	-1.1584
4	RRR landscapes	-1.7026	.1996

5	Green Leaves Landscapes	-2.1315	.4828
6	Ikigai Landscapes	-.3579	.3136
7	Sagar Elevation decors	-.1715	-.0316
8	Elumalai Landscapes	2.2623	1.5535
9	Envision Landscapes	.4229	-.7171
10	Naveen Associates	-.4463	-.3135

Table 1.8 Iteration history for the 1-dimensional solution (in squared distances)

Young's S-stress formula 1 is used.

Iteration	S-stress	improvement
1	.15864	
2	.11928	.03936
3	.11068	.00860
4	.10915	.00153
5	.10873	.00042

Iterations stopped because S-stress improvement is less than .001000

Stress and squared correlation (RSQ) in distances

RSQ values are the proportion of variance of the scaled data (disparitie) in the partition (row, matrix, or entire data) which is accounted for by their corresponding distances.

Stress values are Kruskal's stress formula 1.

For matrix

Stress = .12856 RSQ = .95245

Table 1.9 Configuration derived in 1-dimensions Stimulus Coordinates

Stimulus number	Stimulus name	Dimension 1
1	Vruksha Kuteeram	-.2158
2	Pragathi Landscapes	-.2629
3	PR Landscapes	-.9707
4	RRR landscapes	1.3899
5	Green Leaves Landscapes	1.5794
6	Ikigai Landscapes	.4356
7	Sagar Elevation decors	-.0227
8	Elumalai Landscapes	-2.0305
9	Envision Landscapes	-.2658
10	Naveen Associates	.3634

Derived Stimulus Configuration

Euclidean distance model

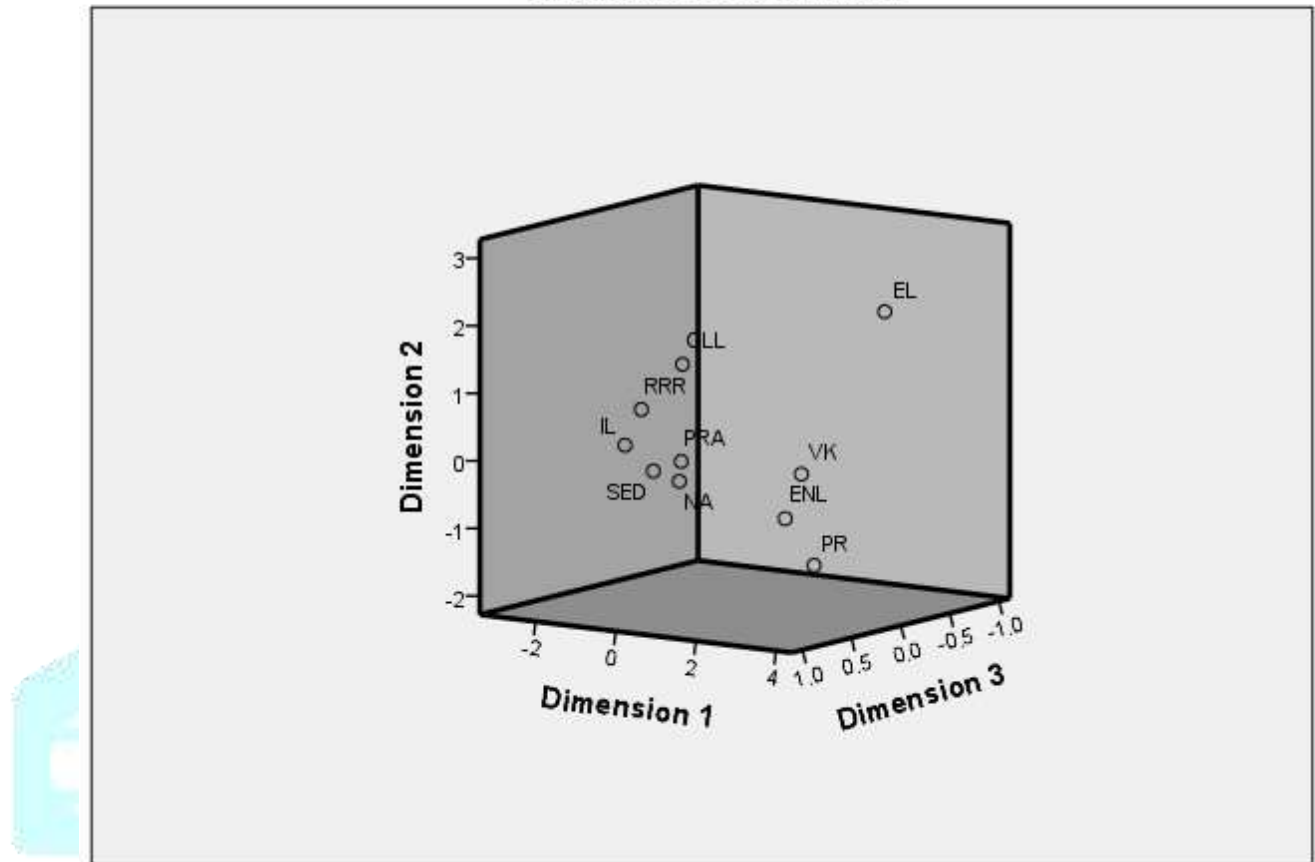


Figure 1.1 Derived stimulus configuration in 3-Dimensional solution

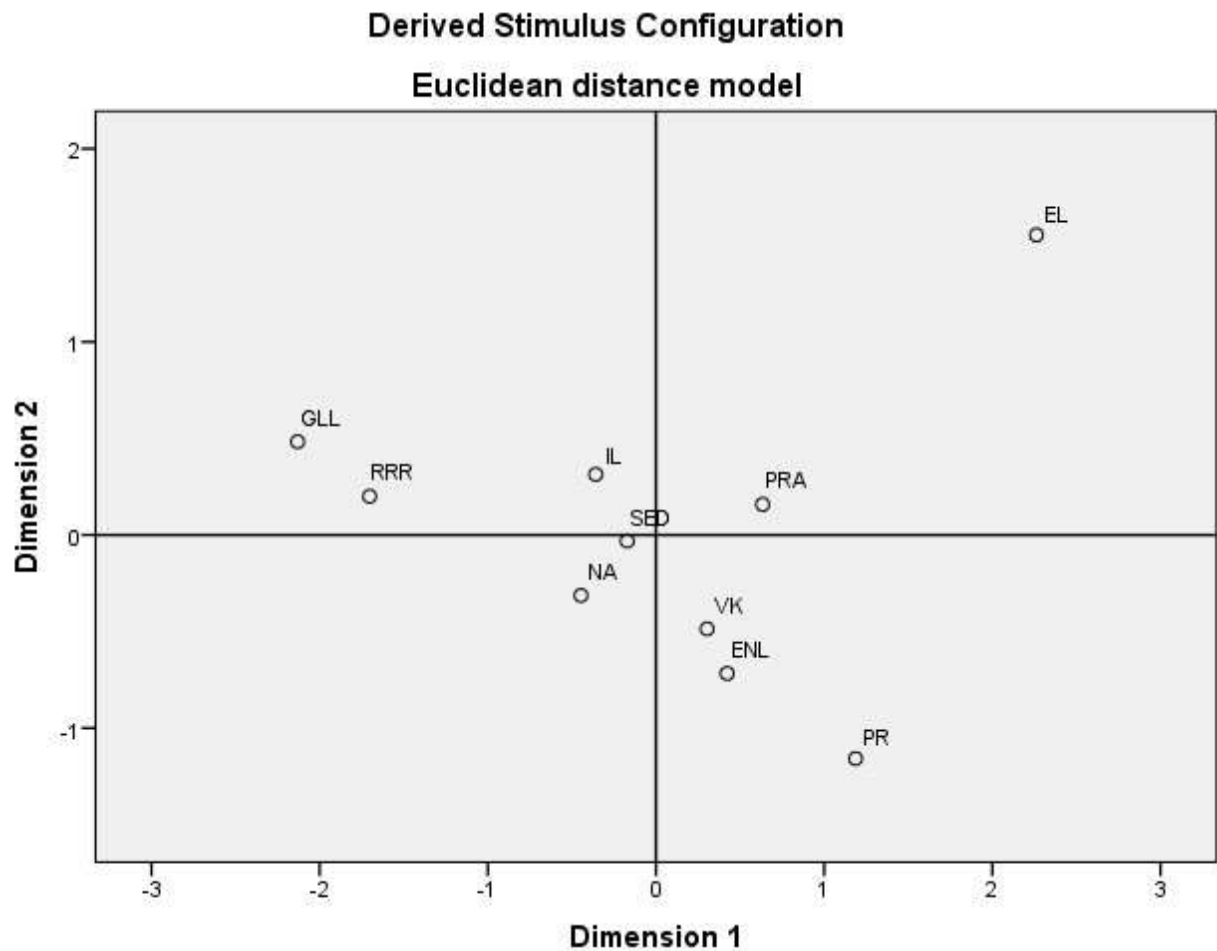


Figure 1.2 Derived stimulus configuration in 2-Dimensional solution

MAJOR FINDINGS OF THE STUDY:

This study uses multidimensional scaling to explore the brand positioning of landscaping companies in Hyderabad based on consumer perceptions. The analysis involved ten companies: Vruksha Kuteeram, Pragathi Greenlands, PR Landscapes, RRR Landscapes, Green Leaves Landscapes, Ikigai Landscapes, Sagar Elevation Decors, Elumalai Landscapes, Envision Landscapes, and Naveen Associates.

Sixty respondents rated these companies on various attributes, and the average ratings were used to compute perceived dissimilarities. The analysis considered various dimensional solutions, with the 4-dimensional model providing the best fit. Key findings include:

- Vruksha Kuteeram and Envision Landscapes excel in "Ease of Use."
- Ikigai Landscapes, Sagar Elevation Decors, and Naveen Associates are strong in "After-Sales Service."
- Green Leaves Landscapes and RRR Landscapes lead in "Design."
- Elumalai Landscapes, PR Landscapes, Pragathi Greenlands, and Vruksha Kuteeram are perceived as offering good "Value for Money."

While the 3-dimensional and 2-dimensional solutions were also evaluated, the 4-dimensional solution offered the most comprehensive representation of customer perceptions.

CONCLUSION: The analysis provides valuable insights into customer perceptions of landscaping companies in Hyderabad, assisting businesses in making informed decisions about brand positioning and aligning with customer expectations.

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