Measuring the Preference of the College in Pokhara: A Multidimensional Scaling Approach

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Abstract

The multidimensional scaling approach is the process of mapping the position of object in a perpetual space. Therefore, the purpose of this study was to mapping the measuring of preferences of colleges in Pokhara by using multidimensional scaling approach. The four QAA (Quality Assurance Accreditation) register college under University Grants Commission, Nepal was taken as a sample of the study in the Pokhara valley. It has used multistage sampling procedures. The study has purposefully taken convenience sampling procedure by taking 162 samples from preferential, similarities and dissimilarities questionnaires distributed from 20 July, 2023 and collected on 21 August, 2023 via messenger group and personal mail. Therefore, the descriptive research design has been used. The data was processed and analysed through Excel and SPSS 20 version by using dissimilarities based on attribute method under multidimensional scaling approach through measuring Stress value, R-square value and spatial mapping. The result shows that Prithvi Narayan Campus (PNC) is the most preferred college in Pokhara and it is quite similar with Gupteshwor Multiple Campus (GMC) in terms of operational activity. In terms of infrastructure and facilities, Kanya Campus (KC) and Kalika Multiple Campus (KMC) look similar. Where, Janapruya Multiple Campus (JMC) is distinct among the other colleges. Since a lot of colleges and university in the education sector are establishing these days, this paper probably be helpful in making positioning strategy on this sector as well its implication be beneficial to various stakeholders. Therefore, it will be more significant to focus on the attribute base MSD to measure the perpetual mapping in the field of marketing, finance as well as profit and nonprofit making institution in Pokhara valley.

Keywords: colleges, multidimensional scaling approach, preferences, similarities and dissimilarities, stress value

Background

Understanding human behavior is an extremely complex task. The theory of perceptions believed that a human perceives objects in a way by which packets of information process by their sensory qualities that reflects the surface of objects and the information carry about their size, shape, texture etc. On the other hand, the individual differences of our sensory and cognitive apparatus that specifies the personal history and uniqueness of our location in space and time open up

serious question of subjective or objective of perception. This is the problem of individual similarities and dissimilarities of perception (Demuth, 2013). However, more often people use their own experience, peculiar and sometimes subjective or perceived dimension to make comparison. Thus, two or more objects or with the same defined dimensions might be perceived very differently by the person because it might not be solely based on the defined or observed parameters and also subjectively or objectively dimension might be absolutely unrelated (Chawla & Sondhi, 2016). A multidimensional approach highlights that there are many different ways in which human behavior and adaptation can be understood. No single theoretical perspective can adequately account for the diversity of individual experiences and the many contextual dimensions that give rise to these experiences. Instead, a multidimensional approach invites us to think about the significance and interconnectedness of a person's biological, psychological and spiritual dimensions along with their relational, social, structural and cultural dimensions during a particular time and at place. Using a visual display, a multidimensional scaling (MDS) is a set of techniques for spatially displaying participant perceptions and preferences (Malahotra et al., 2017). In order to provide a comprehensive framework for understanding human behavior for perpetual difference towards their practice, a multidimensional approach has arisen (Harms, 2010). According to this method, each of us has a distinct inner world made up of our biological, psychological, and spiritual experiences that both shape and are shaped by the external or outer world dimensions of our relationships, societies, structures, and cultures, all of which are influenced by time and place (Hutchison, 2015). Multidimensional approach essentially visually plots the perceptions and preferences of individual singly and as group, regarding a group of objects, individuals or both even when the information about the dimensions or basis of evaluations is minimal. The main emphasis of multidimensional scaling is to identify the dimensions that buyers use to judge companies, products, or brands and alike (Chawla & Sondhi, 2016). Where, every college students and parents use information about the selection of colleges to study their higher education but they have little knowledge about the college environment (Rocklin, 1992). Over the past two decades, the higher education sector has become ever more worldwide. The rising number of students studying abroad and the rise in colleges and universities offering educational services internationally are indicators of the demand for higher education. Studies have demonstrated that this trend has been present for some time. The rise in students studying abroad for business degrees as well as the rising number of colleges and universities offering courses abroad are both evidence of this trend's continuing growth (Naidu & Dereni, 2016). Besides, there were also growing large number of private and public colleges. Any educational institution's lifeblood is students' recruitment and selection. It's crucial to draw in students who will stick around to graduate and support their institutions

or universities. As the number of college students (those who enroll in a university right after high school) declines, community colleges are competing fiercely for students with strong academic credentials. Reduced enrolment may negatively impact a college's or university's operations, resulting in a loss of funding (Lee, 2011). On the other hand, on the basis of the level of education that students receive from various educational institutions, student satisfaction is occasionally examined. For instance, students must assess potential universities according to their quality, price, accessibility, size, and the graphically depicted services. To accurately portray the opinions and views of students, extra dimensions are required to be positioned in relation to these measurements (Aakar et al., 2013).

Probably, quality is a crucial factor that helps students chooses the colleges or universities of their dreams. In order to maintain service quality, service firms like institutions of higher education are unquestionably under ongoing pressure to outperform their competitors in the name of same upholding service quality (Shekarchizadeh et al., 2011). This may very well be the attributes that distinguishes a good university from a bad one. Now, there are various components that make up service quality. The student's preferences and choices for a certain institution not only depend on the quality but also the lecturer's effectiveness and ability to impart knowledge, cost structure, available feasibility, infrastructure may result in changes for the long-term expansion of the further education sector growth (Ollin, 1996). Surprisingly, the multidimensional approach has been used to measure and examined regarding to comparisons, discriminant analysis including multidimensional analysis other than the preference of students regarding the colleges in Pokhara (Paul & Jefferson, 2019; Korobova, & Starobin, 2015; Naidu & Dereni, 2016; Lee, 2011; Lorenzo, 2017; Kunwar, 2021; Timsina, 2022; Bakari et al., 2016; Neely, 1997; Al-Kubaisi et al., 2019; Divjak & Oreški, 2009; Potter et al, 2007; Alkire, & Santos, 2013).Therefore, using multidimensional approach of preferential ranking method is to drive psychological perception for selection of colleges in Pokhara. So, the purpose of the study is to evaluate, analyze, and discuss the preferences and similarities and dissimilarities of college selection of those colleges for education by respondent's perception. Since there are a lot of new and incoming colleges and university being established in the education sector these days, perhaps this paper would be helpful in offering fresh perspectives on this sector.

Literature Review

This section presents the theoretical overview on concept and appliaction of multidimensional scaling approach.

Concept of Multidimensional Scaling Approach

Multidimensional scaling approach is a group of technique of measuring the perception of customers for product or services of business firm (Rabbani, 2020). It is a set of techniques based on graphical representation and the end results is a statistical map of multivariate data (Molinero & Cinca, 2001). Multidimensional scaling (MDS) addresses in a general problem of positioning objects in a perceptual space. The issue of positioning much is concerned in marketing management about comparison with competitor to compete as well dimensions. The MDS responds to these issues as well as others. The multidimensional scaling process can be done in a variety of ways. The presumptions they make, the stance they adopt, and the input data they use vary. The major approaches are divided into categories based on the data used as input and the techniques applied to create perceptual maps. The use of object attributes is one method. If the objects were colleges, the attributes might be professors, status, facilities, cost, etc. After that, MDS integrates these attributes into dimensions like quality. It uses factor analysis, discrimination analysis, and correspondence analysis including MDS. Another set of methods ignores attributes and focuses solely on the correlations between objects' similarity and preferences. Without taking into account any underlying attribute, two schools could be compared to see how similar they are or how much one is favored over the other (Aakar et al., 2013). MDS has been provided variety of information for the used for a marketing application and it includes similarity judgment and preference ranking order normally obtained from the participants (Malahotra et al., 2017). MDS takes into account the proximity of various objects. A proximity value, or any measure of this kind, indicates how similar or dissimilar two items are, or are thought to be. The output of MDS is a geometric configuration of points (objects) in a two-dimensional space, which is the preferred dimension. To obtain proximities data, one can use both attribute-based and non-attribute-based data, such as similarity and preference data, as well as attribute-based data, such as the X attributes of objects (profile matrix). Then, the two-dimensional space's derived Euclidean distances between objects are calculated, and the results are contrasted with the proximity information (Aakar et al., 2013). Multidimensional scaling is produced interactions of a visual or spatial representation of a set of objects. More specifically, serves as the input data for multidimensional scaling is a square symmetric matrix (or half matrix) whose rows and columns correspond to objects and the cell of this matrix measures of the proximity (affinity, affiliation, correlation, distance, interaction, etc.) between the objects (Subkoviak, 1975).

Application of Multidimensional Approach

In past two or more decade, researcher have tremendously focused on the multidimensional construct which refers to the maximum utility or value added

to the product, companies, institutions and so on. Using the multidimensional approach, the difference responses may demonstrate the effects of the marketing practices like creating brand name, reputation, positioning, brand equity, perception and preferences. There has been lack of effort towards the research on the assessment of multidimensional scaling approach to measure the preferences of colleges in the world research. It was evident from the previous research articles that multidimensional approach has been used by different national and international scholars, institutions and companies that have adopted both approaches: attribute based and non attribute based approach to measures the different dimension of object and stimuli to present spatial map of responses. Although several researches have been examined, very few research has been done in this context (Rabbani, 2020). Whatever, studies have been done are relevant and help the researcher, academician and so forth but using the multidimensional scaling approach, the main focus of the study were comparative analysis of students, students' evaluation system, courses, quality education of private and public universities, college selection of high academic ability students, performance of student, academic performance on private and public schools, QAA comparative study of university (Paul & Jefferson, 2019; Korobova, & Starobin, 2015; Naidu & Dereni, 2016; Lee, 2011; Lorenzo, 2017; Kunwar, 2021; Timsina, 2022), multidimensional study on: regarding to psychological reading on perception about similarities and dissimilarities of female faces (Potter et al, 2007), on poverty measurement (Alkire, & Santos, 2013), on human information interaction (Fidel et al, 2004), study of college students' perception of test items formats (Rocklin, 1992), perception on product packaging (Ampuero & Vila, 2006), exploring on packaging and purchase decision (Silayoi & Speece, 2004), validating multidimensional consumer base brand equity scale (Yoo & Donthu, 2001), approach to individual differences in empathy (Davis, 1980), measuring the impact of classroom level factors upon the student achievement (Kyriakides, & Creemers, 2008), and discrimination analysis on students placement in college education (Bakari et al., 2016), discrimination analysis for prediction of college graduate (Neely, 1997), on managing staff appraisal (Al-Kubaisi et al., 2019), on prediction of academic performance (Divjak & Oreški, 2009) than measuring the preferences of colleges.

The scope and application of MDS is huge in marketing research. There are two (attribute and non attribute) approaches to MDS that employ to perceive or evaluate objects like organization, product or brands but there has been lack of literature to measure the preferences of colleges on the basis of dimensional analysis. Therefore, this study explores the application and methodological gap. None of the literature was found to use MDS exploring preferential ranking to measure the dimensionality of respondents regarding to college study.

Methodology

The study simply analyses the preferences of people of Pokhara who had heard, knowledge and experience of any one of QAA (Quality Assurance and Accreditation) certified colleges in Pokhara. The descriptive research design has been used to analyse the preferences of respondents regarding the colleges in Pokhara by using inferential technique of multidimensional scaling approach. The descriptive research design is used to present the comparative evaluation of college selection in the student's, professional and parents' mind space. The multi stage sampling techniques has been used. The 162 responses have been taken as a sample of the study (Kruskal & Wish, 1978). Therefore, purposefully four colleges were taken as the first stage sampling process. In the second stage, the convenience sampling has been used to collect data. The four stimuli were selected purposefully because these colleges are registered under University Grants Commission, Nepal for accreditation and processing as well as these four stimulus are popular in the Pokhara valley. The sample is conveniently taken because most of the students, teachers and professors could provide the relevant data within the time frame and most of them are interconnected with each other. The structure questionnaire has been developed in Google Form. The questionnaire contained demographic background, preferential ranking and similarities and dissimilarities related questions. The preferential ranking has been identified as most preferred one and least preferred is given 5 point rating scale. The similarities and dissimilarities were measured on the basis of 10 point rating scales where 1 to 5 was dissimilarities and rank 6 to 10 was similarities. The similarities and dissimilarities were measured in terms of infrastructure, cost, quality and feasibility. The preferential ranking and similarities and dissimilarities questions were designed on the ordinal and interval scale respectively.

The structured questionnaire was developed by review various literature as well as expert opinion has been used to improve the questionnaire (Chawla & Sondhi, 2016). The measures of preferences are based on the scores given to five stimuli: Prithvi Narayan Campus (PNC), Janapriya Multiple Campus (JMC), Kanya Campus, Pokhra (KC), Gupteshwor Mahadev Multiple Campus (GMC) and Kalika Multiple Campus (KMC) by respondents. Questionnaire was distributed on 20 July, 2023 and collected on 21 August, 2023 through messenger group and personal mail. The collected data has been analysed through SPSS 20 version using alternative least square calculation approach (ALSCAL: use to compute the optimal distance between the objects in a multidimensional stimulus space) method through dissimilarity based model of MDS (Giguere, 2007). The SPSS has given the two dimensional solution and colleges have been grouped as similar and dissimilar manner and generates the spatial map. The college which are very close

to each other are perceived as like similar and which are far from each other on the multidimensional space are considered as a dissimilar. The Young Stress, Kruskal Stress, R-squared value and Iteration were used to analyse the calculated data by SPSS 20 version. The validity and reliability of results are measured by using Stress value, for Stress, Kruskal and Walsh (1978) has proposed the value of Stress by using the levels (Stress>.20: Poor, .10<Stress<.20: Fair, .05<Stress<.10: Good, .025<Stress<.05: Excellent and .00; Perfect). Even though there were no careful interpretations, stress is known to vary according to many other factors (Giguere, 2007). The ethical consideration has been considered.

Results and Discussion

This section deals with the analysis of quantitative data by using SPSS 20 version. It presents the tables and findings regarding objective of the study.

Table 1

Demographic Characteristics of Respondents

Demographic factors	Frequency	Percent
Gender		
Male	96	59.3
Female	66	40.7
Total	162	100.0
Marital Status		
Married	84	51.9
Unmarried	78	48.1
Total	1624	100.0
Age		
15 to 25	78	48.1
25 to 35	42	25.9
35 to 45	30	18.5
45 and over	12	7.4
Total	162	100.0
Occupation		
Student	84	51.9
Private employee	36	22.2
Government employee	18	11.1
Others	24	14.8
Total	162	100.0
Level of Education		
Bachelor	54	33.3
Master	96	59.3

M. Phil	6	3.7
PhD.	6	3.7
Total	162	100.0

Sources: Field survey, 2023

The demographic table describes the essential character of the respondents. The objective of the analysis of demographic variables is to characterize the respondents' age, level of education, occupation and so on to measure the level of preferences on the reputed college in Pokhara. From the demographic analysis of data, male (59.3%), married (51.9%) and age group 15 to 25 years of age (48.1%) are more participator in the survey as well occupation with students (51.9%) and up to master level (92.6%) expressed their perception regarding the college of Pokhara.

As earlier mention, high level of stress indicates a poor fit of model to the data, there is two types of stress namely Young's Stress (known as S-stress) and Kruskal's Stress (known as stress) (Rabbani, 2020).

Table 2

Measuring Preferences (Rank) of the Colleges in Pokhara

Colleges	**N**	**Percentage**	**Sum**	**Mean**	**Std. Deviation**	**Rank**
Prithvi Narayan Campus	162	55.6	294	1.81	1.159	1
Janapriya Multiple Campus	162	48.1	318	1.96	.925	2
Kanya Campus, Pokhara	162	48.1	540	3.33	1.092	2
Gupteshowoer Mahadev Campus	162	33.3	570	3.52	1.170	3
Kalika Multiple Campus	162	51.9	708	4.37	.730	4
Total	162					
For Matrix						
Stress	.00576	(Stress values are Kruskal's stress formula 1.)				
RSQ (R-Square Value)	.99982					

Sources: Field survey, 2023

Table 2 revealed that most of the respondents preferred to study in PNC rather than other colleges. It is due to being the most cost effective college in Pokhara. Whereas second and other preferred colleges are JMC, KC followed by GMC and KMC in Pokhara. The standard deviation of JMC and KMC has less than 1. Therefore, the data point tends to be closer to the mean and less volatile of responses. More than 1 standard deviation means there is high risk associated with the objects. The table 2 reports the two dimensional measure of fit that the Kruskal's Stress (.00576) and R-Square Value (.99).

Iteration history for the two dimensional solutions (in squared distances)

Young's S-stress formula 1 is used.

Iteration	S-stress	Improvement
1	.01614	
2	.00340	.01274

(Iterations stopped because, S-stress is less than .005000)

A final stress for the matrix is 0.00340 and matrix stress is 0.00576, with the R2 value for the matrix is 0.99. In general stress values of less than 0.1 and R2 of higher than 0.6 is acceptable and 0.9 are considered good fit (Clopper, 2008, Chawla & Sondi, 2016; Hair et al., 1998). Going by the guidelines for evaluating the Kruskal's Stress under two dimensions, it measures the goodness of fit and explains the similarities and dissimilarities between the variables among the estimated stimuli dimensions on the basis of criteria of selection. It reflects that 99 percent validity to the result of the MDS solution. The iteration process indicated that movement of all the points towards the better solution. So, the results showed that improving from one iteration to second iteration that can be improvement by .01274 in the stress value that made better solution towards the similarities and dissimilarities of colleges in Pokhara.

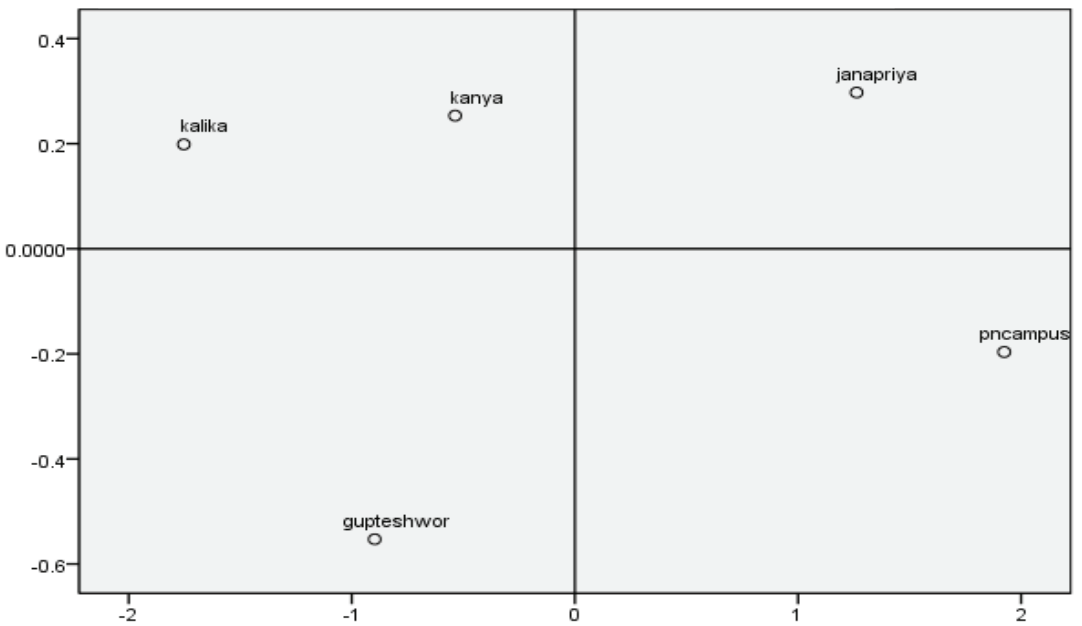
Stimulus Number	Stimulus Name	Stimulus Coordinates Dimension 1	2
1	Prithvi Naryaan Campus (PNC)	1.9243	-.1965
2	Kanya Campus (KC)	-.5369	.2533
3	Janapriya Multiple Campus (JMC)	1.2628	.2974
4	Gupteshwoer Mahadev Mulitiple Campus (GMC)	-.8973	-.5529
5	Kalika Mulitiple Campus (KMC)	-1.7529	.1987

Looking to placement of the reputed colleges in Pokhara, the first dimensions seem to be based on reputation. PN Campus is gaining highest preferences (1.9243) and JMC (1.2628) is close to PNC. It shows that the profiles these two colleges have characteristics associated with each other in some aspects in Pokhara. Kalika (-1.7529) has not achieved that much of reputation with compare to PN Campus and JMC where Kanya and Gupteshwor are pretty similar in fashion in Pokhara. To name the second dimensions, the highest and lowest values are Kanya campus and Janapriya multiple campus and Kalika multiple campus is close to them. The negative highest is Gupteshowor that is -0.5529. On the second dimensions, the

negative dimension are pretty close to PNC and Gupteshwor campus. The college indicated that these two colleges are pretty similar in term of some aspects in two dimensionality analysis. It might be operational process, funding and as well as cost of studying which is shown by stimulus coordinates. Thus, the dimensions identified by researcher can converted into attributes and respondent can evaluate these colleges on the said attributes. So, one way of doing this is go back to the respondents and ask them about what basis they used for comparisons. Based on the research work done on the topic, the researcher might attempt to identify the dimensions only.

Figure 1

Spatial Map of Measuring Preferences of the Colleges in Pokhara



The coordinates are the points in the combined two dimensional space where the stimuli have been placed in to the x-axis and y-axis. This spatial map and the coordinates of the identified dimension are as follows. The figure shows that the KMC and KC is in one segment. It indicated that they are pretty similar in one other in different aspects like teaching staffs, popularity, facilities and other similar aspects whereas other three colleges are placed in three different segments indicates that they are completely different and preferences are difference regarding to select of colleges in Pokhara.

Table 3
Similarities and Dissimilarities of the Colleges on the basis of Cost and Quality

College		PNC	JMC	KC	GMC	KMC
PNC		0				
JMC		4.94	0			
KC		4.74	4.72	0		
GMC		4.81	5.15	5.17	0	
KMC		5.02	4.98	5.11	5.02	0
Stress	.05425	(Kruskal's stress formula 1.)				
RSQ	.96542					

Sources: Field survey, 2023

Table 3 shows the mean value of similarities and dissimilarities between the different colleges in Pokhara. Then, mean value less than five shows that there are no similarities between the colleges and above the value of six is indicated that there is similarities but table shows that almost mean values are in between the mean value four and less than six. This indicated that the reputed colleges in Pokhara are pretty much dissimilar in various aspects of the colleges' attributes and features. The table revealed the similarities and dissimilarities on the basis of cost and quality of the colleges have in Pokhara.

The table 3 also showed that the final stress value is 0.05425 and stress matrix value is 0.07633. The R2 value is 0.96542. All these value are under the standard therefore, the model is goodness of fit to explain the dissimilarities between the reputed colleges in Pokhara.

Iteration history for the two dimensional solutions (in squared distances)

Young's S-stress formula 1 is used.

Iteration	S-stress	Improvement
1	.08207	
2	.07648	.00559
3	.07633	.00015

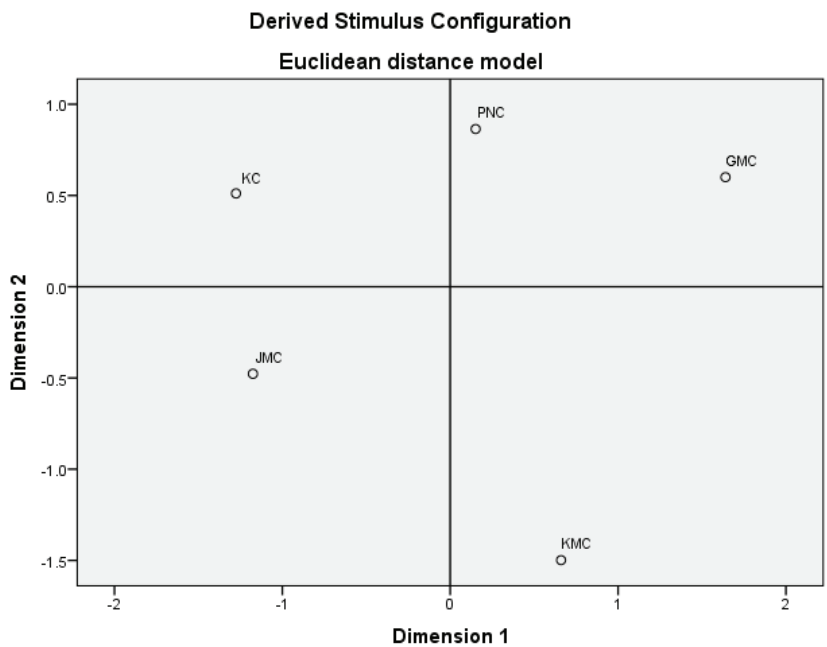
(Iterations stopped because S-stress improvement is less than .001000)

The iteration value shows that the improvement of twice time of the stress value from the original point seeks towards the better solution to identify the more similarities and dissimilarities of colleges.

Stimulus Number	Stimulus Name	Stimulus Coordinates Dimension 1	2
1	PNC	.1512	.8644
2	JMC	-1.1755	-.4772
3	KC	-1.2759	.5111
4	GMC	1.6400	.6002
5	KMC	.6602	-1.4985

Looking to coordinates of various stimulus under two dimension on the basis of cost and quality that the respondent explained. The highest values is 1.6400 of GMC and it is closed to KMC in the first dimensions and the negative values are JMC and KC. On the other hand, in second dimension, PMC is closed to KC and GMC but KMC is far from the value of 0.8644.

Figure 2
Spatial Map of the Colleges in Pokhara based on Similarities and Dissimilarities data



The figure explains the five reputed colleges and group in to four segments under two dimensions on the basis of cost and quality. The PNC and GMC is a place in one segment. It indicated that they are pretty similar in term of cost. The respondent might be thought that these two colleges have almost same types of cost structure in the students' fees. KMC, JMC and KC are placed in three different segments.

Table 4
Similarities and Dissimilarities of Colleges on the basis of infrastructure and other Facilities and Location

College		**PNC**	**JMC**	**KC**	**GMC**	**KMC**
PNC		0				
JMC		5.11	0			
KC		5.37	5.02	0		
GMC		5.20	5.30	5.00	0	
KMC		5.24	4.96	4.85	4.84	0
Stress	.08753	(Kruskal's stress formula 1.)				
RSQ	.93120					

Sources: Field survey, 2023

Table 4 explains that the colleges in Pokhara are so closed to each other in terms of infrastructure and location of colleges in Pokhara city. PNC is much closer to similar with all rest of the colleges but KMC is little bit dissimilar with JMC, KC and GMC,

Iteration history for the two dimensional solution (in squared distances)

Young's S-stress formula 1 is used.

Iteration	S-stress	Improvement
1	.08405	
2	.07849	.00556
3	.07843	.00006

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

The final stress value is 0.07843 and R2 is 0.93120. the stress matrix is 0.8753 and iteration of twice of time, the final stress matrix is reduced and both R2 and stress value is under the standard therefore the similarities are goodness of fit to explain the similarities and dissimilarities on the basis of infrastructure and location

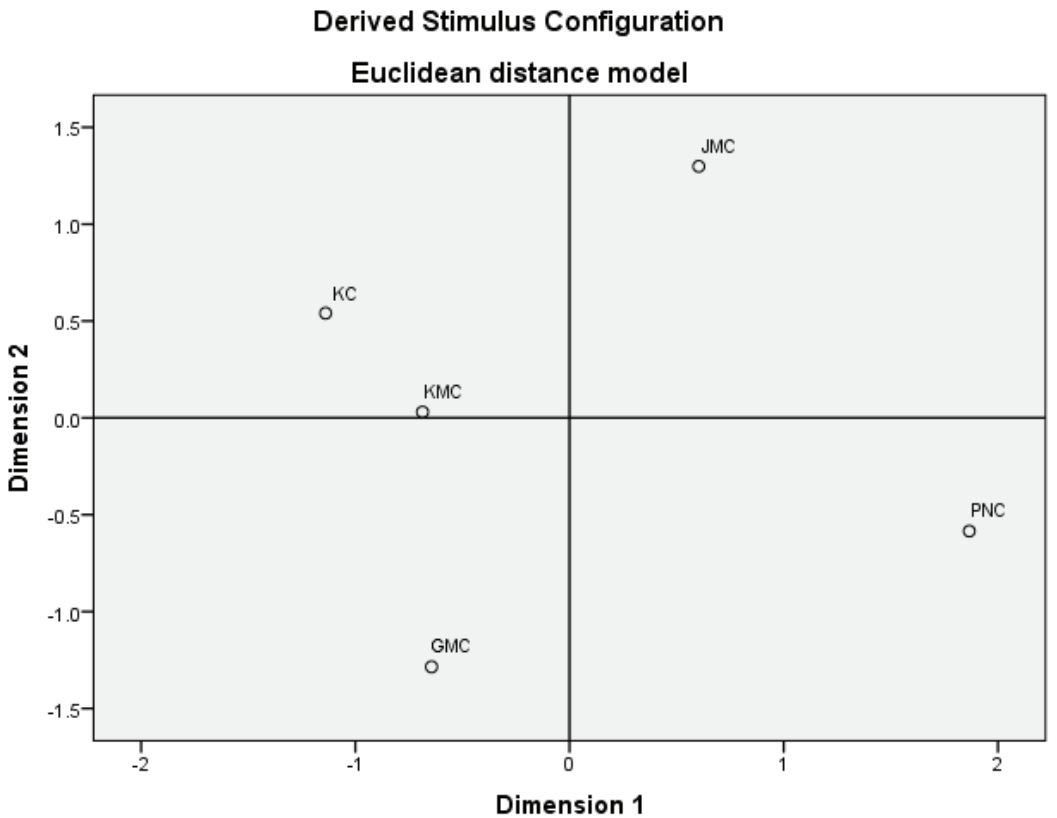
of the reputed colleges in the Pokhara city.

Stimulus Number	Stimulus Name	Stimulus Coordinates Dimension 1	2
1	PNC	1.8662	-.5843
2	JMC	.6030	1.2984
3	KC	-1.1387	.5403
4	GMC	-.6442	-1.2849
5	KMC	-.6863	.0306

The study of coordinates of the placement of dimension shows that PNC is pretty similar with JMC because of their values are positive where as KC, GMC and KMC have negative values indicated that they look similar in terms of infrastructure and location in one dimension study whereas second dimensions shows that JMC and GMC are totally different but PNC is pretty close to GMC.

Figure 3

Spatial Map of Colleges in Pokhara based on Similarities and Dissimilarities data



The figure shows that the KC and KMC are in one segment. It indicated that they are similar in terms of infrastructure and location but PNC, JMC and GMC are three different segments of the figure indicated that they are totally different in terms of infrastructure. On the basis of one dimension, PNC is pretty similar to JMC.

Conclusion

MDS is a powerful statistical tool that interpreted the proximity of data on pairs of objects expressing similarities or dissimilarities into distances points in a multidimensional space. The aim of MDS and unfolding is often visualizing the data so, it becomes easier to the user to explore and understand their nature and structure of data. The Stress values and R Square value explained that the result generated by MDS is good to explain the similarities and dissimilarities of the colleges under registered University Grants Commission, Nepal and the validity of the results of MDS solution. Thus, based on the similarities and dissimilarities and preferential analysis, it shows the relationship among the data objects and the objects are located in the picture. It can be concluded that PNC is one of the most preferred colleges for the respondents to study in terms of cost, quality, infrastructure and location. The MDS always give the coordinates on the identified dimensions along with these and the proximity of values on might try to figure out what could have been the basis of similarities and dissimilarities. In term of cost and quality, PNC and GMC are in one segment, it can be said that both the colleges are focusing the cost effective and quality oriented activities. Nowadays, GMC is gaining popularity in the Pokhara among the register public colleges under UGC, Nepal. On the other side, it can be said that KC and KMC have similar fashion of infrastructure and other facilities that those colleges have. JMC has been distinct reputation among the colleges in Pokhara. It can be said that in the education sectors regarding the establishment of colleges, all of these colleges are so far dissimilarities to one another but some aspects they seem to be similar. Thus, looking at the existing placement of coordinates among the colleges, it seems that there lies a clear opportunity for them to position their colleges in the education sector in Pokhara. As well as it would be helpful for offering fresh perspective in the field of MDS analysis for making positioning strategy and their implications for understanding college preferences in Pokhara to enrich the implications of the study findings for various stakeholders, including colleges, policymakers, and students significantly. The implication of MDS in future needs to be explored by the upcoming researcher in the field of marketing, finance, as well as profit and nonprofit oriented institution in Nepal. The present study used the similarity and dissimilarity based multidimensional scaling approach to find the closest colleges in Pokhara valley in terms of assuming the cost, quality and so forth to it. It will be interesting to use attribute based MDS approach for measuring the perpetual mapping of the colleges in Pokhara valley in

future. Although, researcher needs to be fairly well versed probable parameter that a person might used to make comparison and that dimensions might emerge from the qualitative analysis of the respondents' decision making process or through the researcher's review of the secondary literature.

Conflict of Interest

The author declares that there is no conflict of interest any kind because of the analysis of data was completely based on the results derived from the MDS method and the naming of the dimensions are visual configuration of the point space, asked to preferential differentiate the college and evaluate the objects in terms of several attributes such as cost, quality, infrastructure and location of objects. There is no personal bias to strengthen and weaken any of the colleges being studied.

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