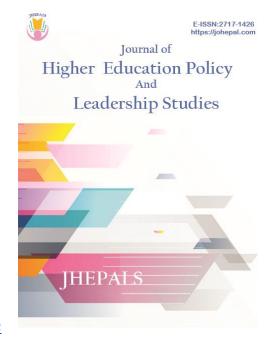
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Uncovering Students' Higher Education Institutions Selection: An Investigation Using Factor Analysis and Cluster Analysis



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Abstract

Several factors influence student selection of Higher Education Institutions (HEIs). In recent years, students' decision-making criteria have evolved beyond traditional factors. This study explored the factors influencing students' choices of HEI. Exploratory factor analysis revealed eight significant factors that influenced HEI choices. The factors are 'Enrolment Value Optimization' (EVO), 'External Psychic Influence' (EPI), 'Internal Psychic Influence' (IPI), 'Academic Infrastructure Influence' (AII), 'Internal Financial Influence' (IFI), 'Pedagogical Aspects' (PEA), 'Objective Based Educational' (OBE) and 'Choice-Based Credit System' (CBCS). Further, based on the importance given to various factors, students are classified into five significant clusters: 'Comprehensive Benefit Seekers', 'Scholars', 'Balanced Learners', 'Holistic Students', and 'Undecided Learners'. These findings provide insights for HEIs to align their offerings with student priorities and to develop targeted marketing strategies. Understanding student decision criteria enables HEIs to address the concerns that influence student satisfaction and performance. The study's findings could benefit institutions worldwide, provided they are appropriately adapted to the cultural context.

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Keywords: Higher Education Institute Selection; Factor Analysis; Cluster Analysis; HEIs Marketing Strategies, Student Satisfaction

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Introduction

The Indian higher education system is one of the largest in the world, with over 35 million students enrolled in various universities and colleges (Lu et al., 2016). According to the University Grants Commission (2023), around 1,043 universities and 43,000 colleges are currently in operation in India. The increase in the number of institutions has led to a rise in student enrolment from 10 million in 2001 to over 35 million in 2021 (Aggarwal, 2021). This expansion has been driven by government and private initiatives, with private institutions becoming increasingly crucial in providing access to higher education (Nawani & Sanyal, 2021).

Several factors influence the selection of Higher Education Institutions (HEIs) by students in India. One of the most significant factors is an institution's reputation. Students and their families often consider the ranking and reputation of an institution before deciding to enroll (Rajput & Chouhan, 2021). The institution's location is also essential, with many students preferring institutions located in urban areas or near their hometowns (Franklin, 2013). Another significant factor is the availability of programs and courses that match students' interests and career aspirations (Hiltz, 1997). Many students choose institutions that offer programs in their preferred fields of study or that have a strong reputation in the area (Gammon et al., 2021). The cost of education is also an essential consideration for many students, with many opting for institutions offering affordable tuition and scholarship opportunities (Okahana, 2013).

Selecting an HEI is a complex and multifaceted decision that can significantly affect undergraduate students' academic and career advancement (Letawsky et al., 2003). HEI choice has been found to influence students' academic engagement, retention, and graduation rates (Cabrera & Nasa, 2000). Furthermore, choosing the right HEI can affect students' job prospects and future earnings (Carnevale et al., 2013). Consequently, HEI selection has become critical for students, parents, and HEIs. Traditionally, students consider factors such as academic reputation, campus facilities, location, cost, and life when selecting an HEI (Choy, 2002). However, in recent years, research has suggested that students' decision-making criteria have evolved beyond the traditional factors. With the changing landscape of higher education and the job market, students increasingly consider career prospects and advancement opportunities to be essential decision-making criteria (Carnevale et al., 2013; Schneider & Preckel, 2017). According to Gallup (2017) graduates who thought their college experience was relevant to their current jobs were more likely to be satisfied at work. Additionally, the Indian education landscape is evolving rapidly and becoming more competitive. HEI embrace modified course structures and pedagogical innovations. Therefore, there is a need to understand contemporary students' priorities beyond the traditional factors that influence HEI choice.

Literature Review

Student college selection depends on several criteria including academic quality, facilities, campus surroundings, and personal characteristics (Sidin et al., 2003). Economic, university-related, personal, and social factors influence students' HEI selection (Jafari & Aliesmaili, 2013). Chapman (1981) found that residency status, quality, academic environment, work-

related concerns, financial aid, and campus social environment influenced the selection of HEI. The learning environment is moderately significant but indirectly influences students' college completion intentions (Thomas, 2014). Institutional factors are more influential than interpersonal or informational resources used by students when making HEI selection decisions (Pampaloni, 2010). The evaluative criteria used by students in their selection of private universities and colleges are primarily influenced by the reputation and quality of the institution, nature of the institutions, future graduate job prospects, lower costs, affiliation of the institutions, and the institution's campus environment and atmosphere (Ancheh et al., 2007). The institution's academic reputation, availability of desired major, total cost of attending HEI, family input, and finance-related factors are all critical factors in the college selection process (Letawsky et al., 2003). Academic ability, cost of attendance, and location have been identified as essential factors in college selection (Lee, 2011). Academic programs, quality of education, and social factors are key factors that affect college choice decisions (Silwal & Baral, 2021). Students' academic quality, student/faculty ratio, international emphasis on the curriculum, educational support services, cost of the program location, winning athletic programs, and friends' opinions are critical factors that influence college selection of the college (Clayton, 2013). The study found that income affects students' choices along the public-private education divide, with higher-income students preferring private institutions (Sidin et al., 2003). Family income significantly affects college choice as students from higher-income backgrounds are more likely to attend more selective institutions. The effect of family income on college choice is more pronounced among low-income students (Mcpherson & Schapiro, 1994). Pitt and Zhu (2019) identified job availability, prospective salary, social status, and prestige as the most important factors that influence college selection.

Additionally, Interest in primary specialization was the most significant factor for students in college selection. Abou-Nassif (2011) stated that parents, friends, and financial considerations are the main factors influencing students' decisions to choose a college. Hossler (1985) found that factors such as cost, academic reputation, and location were essential considerations in the college selection process. Han (2014) showed that the factors influencing college choice include academic reputation, cost, location, and the social environment. Further the study argued that effective marketing strategies for student admission include personalizing communication, leveraging digital media, and providing incentives (Han, 2014). Soutar and Turner (2002) identified the four most essential determinants of university preferences: course suitability, academic reputation, job prospects, and teaching quality. Advice from family, friends, and teachers on students' decisions to choose a public university, along with job prospects, total expenses, campus atmosphere, reputation, and proximity, were considered as choice factors by students (Kusumawati et al., 2010). However, Hoxby (2009) stated that the explanation for changing selectivity is that students' preferences for a college are now driven far less by distance and more by the college's resources.

Additionally, Gender, type of school attended, and level of parental education affected different factors (Abou-Nassif, 2011). Academic prestige, geographical location, and sources of information about the university are the most important factors influencing the choices of economics and administrative science students (Akar, 2012). Akar (2012) claimed that

student demographics affected college selection. Parents' expectations strongly influence students' predisposition towards postsecondary education (Hossler, 1985). The study also revealed that Females were more anxious about moving away from home than males (Moogan & Baron, 2003).

Several studies have explored the factors influencing on the student's choices of HEI. However, the attention has been, on traditional aspects, such as academic reputation, campus facilities, location, cost, and social life (Sidin et al., 2003; Ancheh et al., 2007; Letawsky et al., 2003). There is a need to understand drivers beyond the conventional factors that influence students' choice of HEIs. This study aimed to explore the factors influencing students' selection of HEI and profile them based on their preferences for various factors while selecting an HEI.

Research Objective and Hypothesis

Based on the literature review, the following research objectives and hypotheses are proposed:

Objectives

- 1. To investigate the factors influencing students' selection of Higher Education Institutions (HEIs).
- 2. Determine whether there are any differences in these factors based on gender, type of university, or stream of education.
- 3. To identify distinct profiles of students based on the HEI selection criteria used by students.

Hypotheses:

- Hypothesis-1: There is a significant difference in the factors that influence students' selection of HEIs according to gender.
- Hypothesis 2: There is a significant difference in the factors influencing students' selection of HEIs based on the type of university (public or private).
- Hypothesis-3: There is a significant difference in the factors influencing students' selection of HEIs based on the course stream (e.g., social science, commerce, engineering, and management).

Research Methodology

Survey Instrument

A structured questionnaire was used to gather data to achieve the stated objectives. As a result, the developed instrument comprises the following components.

Demographic information

The first portion collected students' demographic data. These include gender, profession, education, family type, and religion.

Data were collected using a structured questionnaire to measure students' preference for HEI. After carefully reviewing the existing literature on students' (HEI/program) choice behavior, we developed a new questionnaire that reflected the contemporary context of Indian students. First, we identified 45–50 items that could induce students' choice

behavior. A team of experts carefully reviewed the generated items. Many duplicate and irrelevant items were discarded, resulting in 42 items. Researchers and senior academics thoroughly reviewed these items. The items were rewritten for students' understanding and grading on a five-point rating scale ranging from strongly agree (5) to strongly disagree (1). The instrument's content validity was ensured through a thorough literature review by academic experts.

Sampling Design

A multistage random sampling design was used in this study. To collect samples, we selected five developed states with the largest number of Higher Education Institutes. According to the Government of India, Ministry of Education, Department of Higher Education (2022), report, Uttar Pradesh, Maharashtra, Karnataka, Rajasthan, and Gujarat are among India's highest higher education institutions' states. From these states, one State University and one Private University were randomly selected. Two affiliated colleges were selected randomly from each university. With the help of college administration, first-year college students were sent a Google Questionnaire to collect data. Out of the total responses received, twenty respondents were selected randomly. A total of 400 respondents were selected for the study. After data cleaning, 16 outlier respondents were removed from the sample and 386 student respondents were selected for the study.

Central universities and premium institutes such as the Indian Institutes of Technology (IITs) and Indian Institutes of Management (IIMs) were excluded from the sampling frame because they attract the most meritorious students in India.

Results

Factors Considered by the Students While Selecting Higher Education Institute:

Data cleaning was performed on the collected responses to ensure that the data were suitable for further statistical analysis. It primarily includes outliers and a normality assessment of data. Univariate and multivariate outlier detection were performed to identify potential outliers on both scales. The calculated Z-scores of all scales used in the study were within the range of \pm 3.2,9; hence, no significant univariate outliers were identified in the data (Zikmund et al., 2013). The Mahalanobis distance test for multivariate outliers (Tabachnick & Fidell, 2013) identified 14 outliers. These responses were excluded from the data analysis, and 386 cases were selected as samples for the study. Exploratory factor analysis was performed on the collected data, and six items with cross loadings were removed. A total of 36 items were retained for exploratory factor analysis (EFA) using the principle component method of factor extraction. Varimax rotation was performed for the remaining 36 items. A KMO value of 0.862 ensured sampling adequacy for conducting the factor analysis. Additionally, Bartlett's test was significant (approx. Chi-Square = 5599.955, df = 630, Sig. = 0.00), confirming the correlations between the variables in the factor analysis (Hair et al., 2014). The eigenvalue of one criterion was used, and eight factors emerged that explained 58.766 percent of the variance. Table 1 details the items underlying each factor, Eigenvalue, the Percentage Variance Explained by each factor, and reliability index Cronbach's alpha value of each factor. The alpha value of all factors was well above 0.7, indicating internal consistency of the factors (Hair et al., 2014). The factors were named on

the basis of the items underlying each construct. Figure 1 shows the extracted factors and a discussion of each factor is presented.

Table 1. Exploratory Factor Analysis Result

Bartlett's Test of Sphe	ricity Approx. Chi-Square = 5599.955, df= 63	0, Sig. = 0.	00
Factor Name	Statements	Factor Loading	Communalities
Choice-Based Credit System	I have selected this institute as it is ahead in adopting the National Education Policy (NEP) guidelines towards a holistic education	.716	.608
8.759* 24.33** 0.801***	CBCS is a substantial improvement in higher education, surpassing the effectiveness of traditional systems	.701	.620
	CBCS facilitates a more personalized and flexible learning experience for students	.694	.623
	I've taken the course since I wish to pursue higher studies in an institution that follows CBCS	.650	.553
	This institute has effectively implemented the criteria and guidelines of CBCS in its academic programs.	.620	.538
	This institute offers an opportunity to enchase the MOOC Certification in academic credit	.578	.514
	CBCS, implemented by the institute, offers me an opportunity to select the course of my interest	.410	.559
Internal Financial Influence	I prefer this Institute because I had to consider taking up a part-time job to finance my academic goals based on my chosen curriculum.	.730	.626
4.0* 11.129** 0.734***	The academic sponsorship offered by the institute attracted me to the institute	.707	.549
	I could receive a special sponsorship from another academic institution/sports club /Statutory body for taking up this program	.695	.512
	I have opted for this Institute because it is more feasible to avail of a bank loan for funding my academic pursuits.	.625	.535
	I enrolled in this program as I had an opportunity to avail myself of an attractive scholarship from the institute.	.532	.611
Pedagogical Aspects 1.97* 5.48** 0.736***	I chose this Institute because of its modern pedagogical tools and techniques that are in accordance with the provisions of the National Education Policy (NEP)	.731	.640
	I have chosen this Institute as the pedagogical (academic/instructive) tools and techniques are very comprehensive	.666	.675
	I chose the HEI because its resources are elegant and useful for future academic value.	.603	.708
	I selected this HEI because of its commitment to using innovative pedagogical approaches that enhance the learning experience.	.599	.614
	This institute is upfront in modifying pedagogy as per students' needs.	.575	.627

Table 1. Exploratory Factor Analysis Result (Continued)

Factor Name	Statements	Factor Loading	Communalities
Enrolment Value	I have opted for this program because it charges the most reasonable fees among its parallel institutions	.749	.542
Optimization 1.72*	I have opted for this course because of the overall reputation of this institution	.680	.601
4.79** 0.82***	This Institute is the best fit for me regarding quality of education, reputation, and cost.	.670	.576
	It was a great value for my investment in higher education in this program with the institute.	.601	.489
Academic Infrastructure	I have taken this program at this Institute because it has a wonderful lab, the latest research amenities, Library Infrastructure	.773	.589
<i>1.28*</i> 3.57**	I chose to enroll in this program because I liked the overall learning environment of the Institute	.712	.636
0.726***	I have chosen this Institute because it has a best-in-class faculty pool and academicians.	.646	.658
External Psychic	With this Institute, I could access my community support due to my specific religious faith/status	.772	.641
Influence 1.18*	Among the available alternatives, this Institute offers the best value proposition to achieve my academic and career goals	.553	.451
3.28** 0.777***	I was admitted to this Institute because of some of my close friends' influence	.548	.512
	I have opted for this Institute because my parents wanted me to study this 'specific program.'	.547	.605
Outcome Based	I enrolled in this Institute because I found its OBE (Outcome-Based Education) compliance comparable to other top-tier institutes.	.698	.524
Educational Aspects	In my perception, this Institute follows all the criteria of Outcome- Based Education	.546	.656
1.15* 3.21**	Outcome-Based Education OBE helps me to achieve my academic goals comprehensively.	.545	.667
***	This Institute embraces several emerging all-around trends encompassing OBE in higher education	.519	.549
Internal Psychic Influence	I've been admitted to this Institute since I wish to pursue higher studies with this stream of knowledge only	.635	.540
1.06* 2.9**	I've taken this course at the Institute since I wanted to study this subject since childhood.	.541	.571
0.72***	I've opted for this program because of some locational advantages of this Institute (proximity to my home, etc.)	.469	.656

Source: Composed by Researcher (Data Analysis)

Note: * eigenvalue, **Percentage of Variance Explained, ***Cronbach Alpha

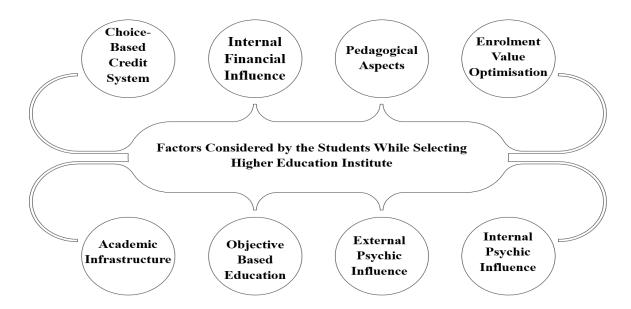


Figure 1. Factors Considered by the Students While Selecting Higher Education Institute (Source: Conceptualised by the Authors)

Choice-Based Credit System (CBCS)

The 'Choice-Based Credit System' (CBCS) is the first extracted factor, suggesting a 24.33 percent variation. This factor is a composite measure of the various aspects of choice-based credit systems in higher education. This factor includes items related to the advantages of the choice-based credit system, such as its ability to facilitate personalized and flexible student learning experiences. The choice-based credit system offers substantial improvements over traditional education systems and allows students to pursue higher education in institutions that follow a choice-based credit System. Additionally, the factor included items related to the effective implementation of a choice-based credit System in academic programs. It consists of students' perceptions that the institute effectively implements criteria and guidelines for a choice-based credit System. Next is the opportunity to enhance MOOC certification through academic credit and the option to select courses of interest.

Internal Financial Influence (IFI)

The second factor, 'Internal Financial Influence' refers to the financial considerations that influence the decision to enroll in a particular program at the institute. Students who choose this institute because they need to work part-time to finance their academic goals, or prefer the educational sponsorship offered by the institute, may be influenced by this. Additionally, students who find it more feasible to avail bank loans to fund their academic pursuits or enroll in a programme with an attractive scholarship provided by the institute may also be influenced by this factor. This factor may also affect students who believe that they could receive special sponsorship from other academic institutions, sports clubs, or statutory bodies for participating in this program.

Pedagogical Aspects (PEA)

The factor 'Pedagogical Aspects' is primarily focused on the teaching methods used by the institute. The statements under this factor specified that students selected the program based on the institute's innovative pedagogical tools and techniques, which aligned with their expectations. The students believed that the program offered by the HEI was helpful for future academic endeavors. Students appreciate the institute's commitment to innovative pedagogical approaches that enhance their learning experience. Furthermore, the students preferred the institute as a prompt to modify their pedagogy according to their students' needs. The factor, 'Pedagogical Aspects,' explains the students' preference for a program that offers modern and innovative pedagogical tools and techniques for a better learning experience.

Enrolment Value Optimization (EVO)

The next factor is 'Enrolment Value Optimization,' related to why students choose a particular educational program or institution. This reflects students' perceptions of the program or the institution's ability to offer value for their investment in higher education. This factor suggests that students consider reasonable fees, overall reputation, quality of education, and costs when making their enrolment decisions. This factor indicates that students are looking to optimize their enrolment value by finding a program or institution that offers the best combination of these factors.

Academic Infrastructure (ACI)

The 'Academic Infrastructure' factor is related to the quality of the academic infrastructure of the HEI. These include modern research facilities, well-equipped laboratories, and comprehensive libraries. The statements under this factor suggest that students consider the quality of their academic infrastructure a critical factor in their decision to enroll in a particular educational institution. These statements also highlight the importance of institutions' overall learning environment. It also includes the quality of the faculty and academic staff. Students value access to top-tier educators and educational professionals who can provide them with high-quality learning experiences. The Academic Infrastructure factor suggests that students value the quality of the academic infrastructure and environment when choosing an educational programme or institution.

External Psychic Influence (EPI)

The 'External Psychic Influence' factor illustrates the role of societal influence on students' decision-making processes when choosing an educational institution. Students are influenced by various factors while selecting the HEI. It includes the opinions and recommendations of their friends, and parental preferences. Additionally, students with a high score on this factor indicate that they have been influenced by the value proposition of the program as well as by the opinions and recommendations of their friends. Furthermore, parental preferences may affect students' decision-making processes. The 'External Psychic Influence' factor highlights the importance of social and cultural factors in students' decision-making processes. This finding suggests that educational institutions that create a sense of community support and offer strong value propositions may be more attractive to prospective students.

Internal Psychic Influence (IPI)

The 'Internal Psychic Influence' factor indicates how a student's goals and preferences affect their choice of HEI. The statements under this factor suggest that students' internal psychics play a significant role in their decision making. This factor considers the students' motivation to pursue a specific area of knowledge or field of study. This factor focuses on students' long-held aspirations or interests that they want to achieve through enrolling in a particular educational program. The factor also includes practical considerations, such as the location and convenience that students can enjoy by selecting a specific HEI. The 'Internal Psychic Influence' factor underscores the importance of understanding students' internal motivations and preferences when designing educational programs and institutions.

Hypothesis:

Furthermore, an attempt was made to analyze whether the factors influencing the selection of HEIs by students depend on their Gender, Type of university (Government, Government-Funded, and Private), and stream of education (Social Science, Commerce, Science, Engineering, Management). Table 2 lists the test values and their corresponding P values.

Hypothesis-1: There is a significant difference in the factors that influence students' selection of HEIs according to gender.

An independent samples t-test was performed to test this hypothesis. The t-test value of all eight factors and respective P-value > 0.05 (5 % level of significance) revealed no significant differences in the factors influencing the selection of HEIs by students based on gender.

Table 2. Hypothesis Test Result

Factor	Gender		Type of HEI		Stream of Education		
ractor	t-test	P Value	F test	P Value	F test	P Value	
Enrolment Value Optimization (EVO)	-0.36	0.72	0.51	0.60	0.68	0.57	
External Psychic Influence (EPI)	0.05	0.96	0.20	0.82	0.40	0.75	
Internal Psychic Influence (IPI)	0.04	0.97	0.10	0.90	0.52	0.67	
Academic Infrastructure Influence (AII)	-0.04	0.97	0.07	0.93	0.98	0.40	
Internal Financial Influence (IFI)	0.82	0.41	0.88	0.42	0.24	0.87	
Pedagogical Aspects (PEA)	-0.83	0.41	0.33	0.72	0.13	0.94	
Objective Based Education (OBE)	-0.32	0.75	0.24	0.79	0.50	0.68	
Choice Based Credit System (CBCS)	-1.06	0.29	0.97	0.38	.59	0.51	

Source: Composed by Authors (Data Analysis)

Hypothesis 2: There is a significant difference in the factors influencing students' selection of HEIs based on the type of university (public or private).

To test whether the factors influencing sections of HEIs by students differed according to HEI type. One-way analysis of variance (ANOVA) was performed. The 'f' test value of all eight factors and respective P-value > 0.05 (5 % level of significance) reveals that the factor influence on the selection of HEI is independent of the type of HEI.

Hypothesis-3: There is a significant difference in the factors influencing students' selection of HEIs based on the course stream (e.g., social science, commercial engineering, and management).

Furthermore, an ANOVA was used to determine whether the factors influencing selection differed in the education stream. The 'f' test value of all eight factors and respective P-value > 0.05 (5 % level of significance) reveals that the factors influencing the selection of HEI are independent of the type of HEI.

Overall, the test results reveal that there is no stereotype of gender, type of HEI, or the Stream of Education that determines the factors influencing the selection of the HEI, but it is indeed a personalized preference.

Profiling Students

The study segmented the respondent students based on their interests, identical motivations, and similar perspectives when selecting an HEI. This study identified eight significant factors that influence HEI selection. These factors are listed in Table 1. To segment the students' Hierarchical cluster analysis is performed on students' scores for these eight factors. Hierarchical algorithms, namely the complete link and Ward method, were applied using square Euclidean distances to identify possible groupings in the data.

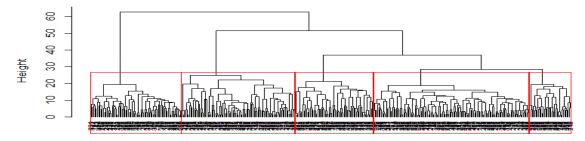


Figure 2. Cluster Dendrogram (Source: Data Analysis)

The dendrogram (Figure 2) displays the results of a hierarchical cluster analysis conducted to identify students' distinct subgroups based on their responses. The vertical axis of the dendrogram represents the Euclidean distance between the pairs of students. An examination of the resulting agglomeration schedules and dendrograms revealed five significant clusters. A detailed examination of the group assignment and subsequent analysis using a nonhierarchical k-means clustering algorithm confirmed that the solution of the five clusters was the most appropriate.

Table 3 shows the characterization of the clusters based on the means score of the eight factors they give importance while selecting the HEI. All F-ratios were significant beyond the 5% level, indicating significant differences across clusters in each of the eight influencing factors, ensuring the discriminating power of each clustering variable. The ClusterPlot in Figure 2 displays the results of a k-means clustering analysis conducted to identify distinct groups of students based on their preferences for HEI selection. ClusterPlot shows observations on a multidimensional scaling plot with group membership determined by ellipses. The plot shows five distinct student clusters and the location of each student in a two-dimensional space, with the X- and Y-axes representing two key principal factors that

influence HEI selection. Figure 3 illustrates the students' Cluster Profile, and the cluster profiles are discussed in detail.

Table 3.

Means and F Ratio across Clusters for Eight Influencing Factors

	Clusters							
Factors	Comprehensive Value Seekers	Scholars	Balanced Learner	Holistic Students	Undecided Learners	F Ratio	P Value	
Enrolment Value Optimization (EVO)	4.02	4.23	3.24	4.22	2.7	103.0	.000	
External Psychic Influence (EPI)	2.67	3.39	2.78	4.08	2.63	91.0	.000	
Internal Psychic Influence (IPI)	3.06	3.45	3.23	3.66	2.69	30.4	.000	
Academic Infrastructure Influence (AII)	1.91	2.55	2.72	3.85	2.1	167.2	.000	
Internal Financial Influence (IFI)	2.06	3	2.9	4.2	2.31	234.1	.000	
Pedagogical Aspects (PEA)	3.45	4.17	3.08	4.11	2.68	77.4	.000	
Objective Based Education (OBE)	3.43	3.92	3.18	4.13	2.35	108.6	.000	
Choice Based Credit System (CBCS)	3.46	4.14	3.3	4.24	2.69	100.4	.000	
Number of cases Per Cluster	123 (31.87%)	69 (17.88%)	85 (22.02%)	67 (17.36%)	42 (10.88%)	386 (100)		

Source: Composed by Authors (Data Analysis)

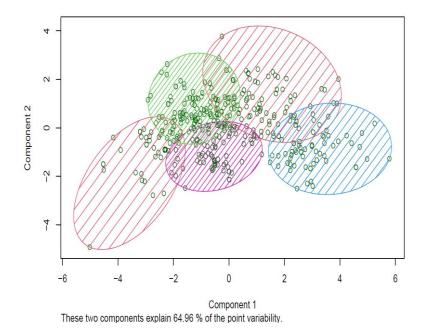


Figure 2. ClusterPlot (Source: Data Analysis)

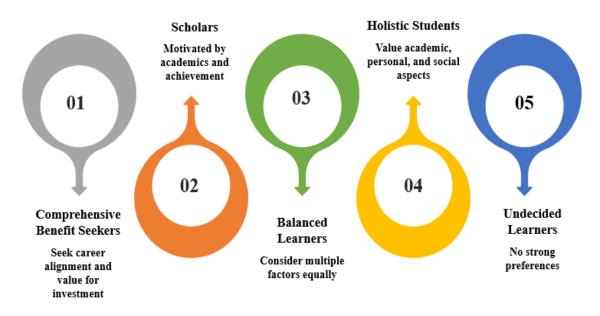


Figure 3. Students Cluster Profile (Source: Conceptualised by the Authors)

Comprehensive Benefit Seekers

This cluster has a slightly higher mean score for 'Enrolment Value Optimization' (EVO) 4.02, 'Choice Based Credit System' (CBCS) 3.46, 'Pedagogical Aspects' (PED) 3.45, and 'Objective Based Educational' (OBE) 3.43. Within the cluster, the highest mean score for 'Enrolment Value Optimization' (EVO) suggests that the cluster emphasizes enrolment value while selecting their course of study. They prioritize programs that align with their goals and help them achieve their desired career paths. Further, they also value institutions that have adopted the 'Choice Based Credit System' CBCS and focus on improving Pedagogical teaching. The CBCS system allows students to choose courses based on their interests, and enables greater flexibility in the academic curriculum. 'Objective Based Educational' OBE mean score of 3.43 suggests Comprehensive Benefit Seekers prefer institutions adopting outcome-based education.

Scholars

The students belonging to the cluster of 'Scholars' are highly motivated, committed to their academic pursuits, and focused on achieving their goals. The cluster has the highest means score for 'Enrolment Value Optimization' (EVO), 4.23, suggesting that 'Scholars' prioritize finding a program that aligns with their interests and career aspirations. Further, the means score for 'Choice Based Credit System' (CBCS), 4.14, suggests that they value institutions that have adopted the 'Choice Based Credit System' CBCS. This system allows students to choose courses based on their interests, and enables greater flexibility in the academic curriculum. They also emphasized 'Pedagogical Aspects' (PED) with a mean score of 4.17. It includes teaching methods, curriculum design, and the learning outcomes of students' education. Additionally, their emphasis on learning outcomes and skills development aligns

with the 'Scholars' focus on achieving their academic goals, reflected in a 3.92 mean score for Outcome-Based Education (OBE).

Balanced Learners

This cluster did not have high scores for any of the factors. The means score on factors are 'Choice Based Credit System' (CBCS) 3.3, 'Enrolment Value Optimization' (EVO), 3.24, 'Internal Psychic Influence' (IPI) 3.23, 'Outcome-Based Education' (OBE) 3.18 and 'Pedagogical Aspects' (PED) 3.08. Balanced Learners consider various factors when choosing an HEI, including their personal interests and career aspirations, internal psychological influences, objective-based educational and pedagogical approaches, and financial situations. They also consider external factors but may not prioritize them as highly as the other clusters.

Holistic Students

Based on the mean scores of the eight factors, the cluster was named 'Holistic Learners.' The students in this cluster reflected multiple learning dimensions, including academic, personal, and social ones. The cluster has a higher score for the factors for 'Enrolment Value Optimization' (EVO), 'Choice Based Credit System' (CBCS), 'Internal Financial Influence' (IFI), 'Objective Based Education' (OBE), and 'Pedagogical Aspects' (PED). These factors suggest that members of this cluster emphasize academic and career-related goals and the quality of education they expect from the HEI. Additionally, this cluster also values 'Internal Psychic Influence' (IPI), 'External Psychic Influence' (EPI), and 'Academic Infrastructure Influence' (AII), indicating that students also place importance on the personal and social aspects of their education.

Undecided Learners

Based on their mean scores, this cluster was named 'Undecided Learners.' The cluster of students with low factor scores indicated that they were less clear about what they sought from an HEI. This cluster had lower mean scores across all factors than the other clusters, suggesting that they did not prioritize any particular aspect of their education over others. The 'Undecided Learners' cluster is characterized as lacking strong preferences or priorities regarding their education. Students in this cluster could benefit from additional guidance and support to help them clarify their goals and make informed decisions regarding their education.

Theoretical Contributions

The findings of this study make several significant contributions to the literature on student choice for selecting an HEI in India's changing educational spectrum. The factor analysis results of this study validated theoretical dimensions such as academic facilities, faculty quality, location, affordability, and peer influence as critical drivers that influence students' preferences for the selection of HEI in India (Dhaliwal et al., 2019; Mishra & Gupta, 2021). Additionally, the clustering of the respondent students based on their rating of influential factors revealed their preferred value proposition while selecting an HEI. The data-based categorizations of students, such as Comprehensive Benefit Seekers, Scholars, Balanced Learners, Holistic Learners, and Undecided Learners, highlight the diverse preferred value

propositions from HEI and the learning objectives of various subgroups of Indian students, aligned with other studies in the field (Ganji et al., 2022; Moogan et al., 1999).

Additionally, although this study was conducted in an Indian context, the findings resonate with those of other global studies. Such as the aspect of 'Academic Infrastructure Influence' and 'University Infrastructure and Facilities' play a role in molding the choices made by students in the United Kingdom (Veloutsou et al., 2004). The 'Academic Infrastructure Influence' factor also reflects common global priorities, such as 'University Facilities' that students prefer (Joseph & Joseph, 2000). Similarly, 'Enrolment Value Optimization,' the factor proposed by the present study, aligns with the driver of 'Cost and Financial Aid, which has been emphasized in research within the United States context (Goenner & Snaith, 2004; Kim et al., 2009). The effect of external psychic elements while selecting an HEI aligns with peer influences on decision making among Turkish students (Telli Yamamoto, 2006). The factor 'Internal Psychic Influence' resonates with the 'Institutionstudent match' dimension, relating to the personal interests that shape university selection (Gibbs & Knapp, 2002; Kotler & Fox, 1995). The 'Internal Financial Influence' captures the financial constraints faced by students, consistent with international research on student decision making (Kim et al., 2009; Leslie & Brinkman, 1988). Further, the 'Pedagogical Aspects' emphasis on teaching quality aligns with numerous research findings as a pivotal role in college choice across the U.S., U.K., and Australia (Briggs & Wilson, 2007; Soutar & Turner, 2002).

Practical Implications

The Indian education spectrum is changing rapidly and the education industry is becoming more competitive. In addition to the entry of numerous private players, this sector is open to foreign universities. In this evolving context, the study's findings provide vital information about students' preferred value propositions while selecting the HEI. The HEI can align its institutional characteristics and image to match this preferred value proposition to attract the proper fit of students through appropriate marketing communication, strengthen academic programs, enhance campus life, and create a favorable reputation for the Institute in the community. This can help ensure that students are satisfied with their choice of HEI, leading to increased retention rates and an enhanced quality of education.

In addition, student profiling facilitates a promotion strategy in which HEI can develop to attract students. This study suggests that HEIs must improve their choice architecture by simplifying how they present the available options to students. Cluster-based offerings of many possible permutations in study choices can overwhelm students' choices. Information on the student cluster facilitates HEIs in devising customized information, guidance, and advice. This study also highlights the importance of the curriculum and pedagogy in influencing students' decisions. The study found that students belonging to specific clusters are showing a strong inclination towards HEIs that are navigating towards the 'New Education Policy' (NEP) and implementing 'Outcome-Based Education' (OBE) and 'Choice Based Credit System' (CBCS).

Furthermore, this study reemphasizes that financial aspects are a significant student concern when choosing an HEI or University. Although this is not a new concern, it has been largely ignored by institutional policies and practices. This study recommends that HEIs pay more attention to this issue and provide students with the support necessary to make

informed financial decisions. This finding underscores the importance of HEI efforts to attract private scholarship beyond government support.

Moreover, the factors identified in this study, such as academic quality, affordability, reputation, and facilities, are common concerns among students in underdeveloped countries. The study's empirical methodology and significant results regarding students' perceived value preference while selecting HEI provide valuable insights that may be applied to other developing countries seeking to enhance access, fairness, and quality in their growing higher education systems. The study's findings could benefit institutions worldwide, provided they are appropriately adapted to the cultural context.

Conclusion

This study aims to identify the factors that influence prospective students' decisions when choosing a HEI or University. The study has explored eight significant factors that influence student's choice of HEI. The factors are 'Enrolment Value Optimization' (EVO), 'External Psychic Influence' (IPI), 'Academic Infrastructure Influence' (AII), 'Internal Financial Influence' (IFI), 'Pedagogical Aspects' (PEA), 'Objective Based Educational' (OBE) and 'Choice Based Credit System' (CBCS). Further, based on the importance given to various factors, students were classified into five significant clusters: "comprehensive benefit seekers," 'Scholars,' 'Balanced Learners,' 'Holistic Students,' and 'Undecided Learners.'

Empirical evidence suggests that academic quality, faculty, location, costs, facilities, and professional success are significant determinants of HEI choice. Additionally, the emergence of new elements, such as the implementation of 'Choice Based Credit System' (CBCS) and 'Outcome Based Education' (OBE) compliance, has considerable importance, as they represent the evolving landscape of higher education in India. This study provides HEIs with valuable knowledge on Indian students' preferred value propositions, which can be used to develop targeted marketing communication, strengthen academic programs, enhance campus life, and improve the reputation of the institute.

While this study is situated in the Indian higher education context, many of the findings resonate with those of other global studies. The international choice criteria include academic quality, affordability, facilities, and career outcomes. Similarly, the influence of social networks and family preferences on students' decisions, noted in this study, was found across diverse cultural settings. Additional investigations should also undertake a comparative analysis of India's study results in relation to the different settings in both developing and developed countries. This study offers further research directions to conduct comparative studies on student choice motivations and priorities in developing and developing countries.

Further Scope for Study

This study offers significant insights and identifies other promising areas for further research on students' choice behaviors toward HEI. As students' choice behavior for HEI has been shaped and reshaped by the dynamic social, cultural, and economic environment, longitudinal follow-up studies are needed to obtain dynamic insights into student choice

behavior. This study utilized quantitative techniques such as factor analysis and cluster analysis to categorize students based on their survey ratings of choice attributes. In addition to employing questionnaires, conducting further research through qualitative methodologies such as focus group interviews would augment the quantitative findings by offering a nuanced contextual understanding of student motivations.

Another area for further research is to conduct comparative studies on student choice motivations and priorities with other countries, both developing and developed nations. Studies in this direction will unfold the factors relevant only to India versus those that are universal across countries. Additionally, student segments are uniquely present in India compared with those common globally. Cross-country comparisons can provide insights into the generalizability and transferability of the findings of this study confined to India to other national contexts. Cross-country comparative studies will elucidate whether new factors influencing students' choice behavior for HEI or distinct student clusters arise in various cultural contexts, necessitating the development of specialized country-specific theoretical frameworks.

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Human Participants

The authors affirm that this study, involving human participants and anonymized personal data, meets all ethical and legal standards.

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The authors affirm that the manuscript is their own original contribution and that all external sources used have been properly cited or quoted.

References

- Abou-Nassif, S. M. (2011). Self-reported factors that influence choice of college-bound students in Lebanon. *Capella University*.
 - https://www.proquest.com/openview/43c9f749f97428d105306c5584e36eae/1?pq-origsite=gscholar&cbl=18750
- Aggarwal, P. (2021). Skills, learning and research (SLR model): Three dimensional model of higher education in India. *International Journal of Science and Research, 10*(11), 142-144. https://www.ijsr.net/archive/v10i11/SR211031213651.pdf
- Akar, C. (2012). Factors affecting university choice: A study on students of economics and administrative science. *Eskişehir Osmangazi Üniversitesi İktisadi Ve İdari Bilimler Dergisi, 7*(1), 97-120. https://dergipark.org.tr/en/download/article-file/65489
- Ancheh, K. S. B., Krishnan, A., & Nurtjahja, O. (2007). Evaluative criteria for selection of private universities and colleges in Malaysia. *Journal of International Management Studies, 2*(1), 1-11.
- Briggs, S., & Wilson, A. (2007). Which university? A study of the influence of cost and information factors on Scottish undergraduate choice. *Journal of Higher Education Policy and Management*, 29(1), 57-72. https://doi.org/10.1080/13600800601175789
- Cabrera, A. F., & Nasa, S. M. L. (2000). Understanding the college-choice process. *New Directions for Institutional Research*, 2000(107), 5-22. https://doi.org/10.1002/ir.10701
- Carnevale, A. P., Smith, N., & Strohl, J. (2013). *Recovery: Job Growth and Education Requirements through 2020*. Georgetown University: Center on Education and the Workforce. https://cew.georgetown.edu/wp-content/uploads/2014/11/Recovery2020.FR_.Web_.pdf
- Chapman, C., & Feit, E. M. (2015). *R for Marketing Research and Analytics*. Springer Cham.
- Chapman, D. W. (1981). A model of student college choice. *The Journal of Higher Education*, *52*(5), 490-505. https://doi.org/10.1080/00221546.1981.11778120
- Choy, S. (2002). *Nontraditional undergraduates*. U.S. Department of Education: National Center for Education Statistics. https://nces.ed.gov/pubs2002/2002012.pdf
- Clayton, D. D. (2013). Factors and influences contributing to the college selection decision of high achieving high school seniors (Publication No. 49) [Doctoral dissertation, Western Kentucky University]. Digital Commons@WKU. https://digitalcommons.wku.edu/diss/49/
- Dhaliwal, M. S., Mittal, A., Aggarwal, A., & Chand, P. K. (2019). Determining the factors affecting the selection of private universities and colleges in Indian context: A structural equation modeling approach. *Journal of Advanced Research in Dynamical and Control Systems*, 11(08), 2579-2590.
- Franklin, R. S. (2013). The roles of population, place, and institution in student diversity in American higher education. *Growth and Change: A Journal of Urban and Regional Policy*, *44*(1), 30-53. https://doi.org/10.1111/grow.12001
- Gallup. (2017). 2017 college student survey: A nationally representative survey of currently enrolled students. Available at https://news.gallup.com/reports/225161/2017-strada-gallup-college-student-survey.aspx
- Gammon, D. E., Namaste, N., Darby, A., & Giovanello, S. (2021). Undergraduate perceptions of the three branches of the arts and sciences: An empirical study of both stated and revealed preferences. *The Journal of General Education*, *70*(1-2), 111-132. https://doi.org/10.5325/jgeneeduc.70.1-2.0111

- Ganji, K. K., Alam, M. K., Gudipaneni, R. K., Algarni, H., Munisekhar, M. S., Hamza, M. O., Mousa, M. A., & Sghaireen, M. G. (2022). Do learning style preferences influence the cumulative gross point average and self directed learning hours in dental students: A preliminary study. *BMC Medical Education*, 22(1), 493. https://doi.org/10.1186/s12909-022-03535-z
- Gibbs, P., & Knapp, M. (2002). *Marketing Higher and Further Education: An Educator's Guide to Promoting Courses, Departments and Institutions*. Kogan Page.
- Goenner, C. F., & Snaith, S. M. (2004). Predicting graduation rates: An analysis of student and institutional factors at doctoral universities. *Journal of College Student Retention: Research, Theory & Practice*, *5*(4), 409-420. https://doi.org/10.2190/LKJX-CL3H-1AJ5-WVPE
- Government of India, Ministry of Education, Department of Higher Education. (2022). All India survey on higher education 2021-22. https://aishe.gov.in/aishe/viewDocument.action?documentId=353
- Hair, J. F., Black, W. C., Babin, B. J., & Anderson, R. E. (2014). *Multivariate Data Analysis* (7th ed.). Pearson Education.
- Han, P. (2014). A literature review on college choice and marketing strategies for recruitment. Family & Consumer Sciences Research Journal, 43(2), 120-130. https://doi.org/10.1111/fcsr.12091
- Hiltz, S. R. (1997). Impacts of college-level courses via asynchronous learning networks: Some preliminary results. *Online Learning*, 1(2). https://doi.org/10.24059/olj.v1i2.1934
- Hossler, D. (1985). A research overview of student college choice. *The Review of Higher Education*, 9(1), 122. https://doi.org/10.1353/rhe.1985.0040
- Hoxby, C. M. (2009). The changing selectivity of American colleges. *Journal of Economic Perspectives*, *23*(4), 95-118. https://doi.org/10.1257/jep.23.4.95
- Jafari, P., & Aliesmaili, A. (2013). Factors influencing the selection of a university by high school students. *Journal of Basic and Applied Scientific Research*, *3*(1), 696-703.

 https://www.textroad.com/pdf/JBASR/J.%20Basic.%20Appl.%20Sci.%20Res.,%203(1)696-703,%202013.pdf
- Joseph, M., & Joseph, B. (2000). Indonesian students' perceptions of choice criteria in the selection of a tertiary institution: Strategic implications. *International Journal of Educational Management*, *14*(1), 40-44. https://doi.org/10.1108/09513540010310396
- Kim, J., DesJardins, S. L., & McCall, B. P. (2009). Exploring the effects of student expectations about financial aid on postsecondary choice: A focus on income and racial/ethnic differences.

 *Research in Higher Education, 50(8), 741-774. https://doi.org/10.1007/s11162-009-9143-x
- Kotler, P., & Fox, K. F. A. (1995). Strategic Marketing for Educational Institutions. Prentice Hall.
 Kusumawati, A., Yanamandram, V. K., & Perera, N. (2010). Exploring student choice criteria for selecting an Indonesian public university: A preliminary finding. ANZMAC 2010 Doctoral Colloquium (pp. 1-27). Christchurch, New Zealand: ANZMAC. https://ro.uow.edu.au/chsd/35
- Lee, R. E. (2011). Comparative analysis of factors related to college selection by high academic ability students attending Mississippi's public community colleges in 2003 and 2011 (Publication No. 433) [Doctoral dissertation, The University of Southern Mississippi]. Aquila Digital Community. https://aquila.usm.edu/dissertations/433
- Leslie, L. L., & Brinkman, P. T. (1988). *The Economic Value of Higher Education*. Macmillan Publishing Company.
- Letawsky, N. R., Schneider, R. G., Pedersen, P. M., & Palmer, C. J. (2003). Factors influencing the college selection process of student-athletes: Are their factors similar to non-athletes. *College Student Journal*, *37*(4), 604-611.
- Lu, J., Hahn, D.-D., & Oh, K. (2016). A comparative study on government-led higher education quality improvement projects between China and India. *Journal of Fisheries and Marine Sciences Education*, 28(4), 1114-1132. https://doi.org/10.13000/JFMSE.2016.28.4.1114

- McPherson, M. S., & Schapiro, M. O. (1994). College choice and family income: Changes over time in the higher education destinations of students from different income backgrounds (Discussion Paper No. 29). Williams Project on the Economics of Higher Education, Williams College. https://sites.williams.edu/wpehe/files/2011/06/DP-29.pdf
- Mishra, N., & Gupta, S. L. (2021). Factors and influences contributing to the college/university selection: A study of private higher education institutes (HEIs) in Oman. *TEM Journal*, *10*(2), 908-915. https://doi.org/10.18421/TEM102-53
- Moogan, Y. J., & Baron, S. (2003). An analysis of student characteristics within the student decision making process. *Journal of Further and Higher Education*, *27*(3), 271-287. https://doi.org/10.1080/0309877032000098699
- Moogan, Y. J., Baron, S., & Harris, K. (1999). Decision-making behaviour of potential higher education students. *Higher Education Quarterly*, *53*(3), 211-228. https://doi.org/10.1111/1468-2273.00127
- Nawani, D., & Sanyal, S. (2021). Private initiatives in school reform in India. *Oxford Research Encyclopedia of Education*. https://doi.org/10.1093/acrefore/9780190264093.013.432
- Okahana, H. (2013). Shifting demand or just moving price?: A multi-level analysis of student price demand for college education and state policy preferences. *University of California, Los Angeles*. https://escholarship.org/uc/item/6mb7s7ng
- Pampaloni, A. M. (2010). The influence of organizational image on college selection: What students seek in institutions of higher education. *Journal of Marketing for Higher Education*, 20(1), 19-48. https://doi.org/10.1080/08841241003788037
- Pitt, R. N., & Zhu, L. (2019). The relationship between college major prestige/status and post-baccalaureate outcomes. *Sociological Perspectives*, *62*(3), 325-345. https://doi.org/10.1177/0731121418803325
- Rajput, G., & Chouhan, P. S. (2021). Exploring the factors affecting students' choice of higher education institutes in India: A factor analysis approach. *Journal of Business and Social Sciences Research*, 6(1), 21-34. https://doi.org/10.3126/jbssr.v6i1.38126
- Schneider, M., & Preckel, F. (2017). Variables associated with achievement in higher education: A systematic review of meta-analyses. *Psychological Bulletin*, *143*(6), 565-600. https://doi.org/10.1037/BUL0000098
- Sidin, S. M., Hussin, S. R., & Soon, T. H. (2003). An exploratory study of factors influencing the college choice decision of undergraduate students in Malaysia. *Asia Pacific Management Review*, 8(3), 259-280.
- Silwal, P. P., & Baral, R. K. (2021). Factors influencing college choice of Nepalese undergraduate students. *Quest Journal of Management and Social Sciences*, *3*(2), 229-244. https://doi.org/10.3126/qjmss.v3i2.41572
- Soutar, G. N., & Turner, J. P. (2002). Students' preferences for university: A conjoint analysis. International Journal of Educational Management, 16(1), 40-45. https://doi.org/10.1108/09513540210415523
- Tabachnick, B. G., & Fidell, L. S. (2013). Using Multivariate Statistics (6th ed.). Pearson.
- Telli Yamamoto, G. (2006). University evaluation-selection: A Turkish case. *International Journal of Educational Management*, 20(7), 559-569. https://doi.org/10.1108/09513540610704654
- Thomas, D. (2014). Predicting student college completion intention: A discriminant analysis. *ASEAN Journal of Management & Innovation*, 1(1), 41. https://doi.org/10.14456/AJMI.2014.6
- University Grants Commission. (2023). National Higher Education Qualifications Framework (NHEQF). Ministry of Education, Government of India. https://www.ugc.gov.in/pdfnews/2990035_Final-NHEQF.pdf

Veloutsou, C., Lewis, J. W., & Paton, R. A. (2004). University selection: information requirements and importance. *International Journal of Educational Management, 18*(3), 160-171. https://doi.org/10.1108/09513540410527158

Zikmund, W. G., Babin, B. J., Carr, J. C., & Griffin, M. (2013). *Business Research Methods*. Cengage Learning.

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