

# Determinants of the Satisfaction of Students Studying in Private Universities—Application of Kano Model

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## Abstract

The satisfaction of the students at university is in general interpreted as the happiness and contentment that students experience when their needs and expectations are fulfilled. This paper is aimed at understanding the factors that influence the students' satisfaction using Kano model of customer satisfaction as the basic premise. The survey was conducted amongst 193 students studying at the private universities in Uttarakhand state. The results indicated that the key determinants of satisfaction for the students studying at the private universities included the qualified and knowledgeable faculty resources that private universities attract, and the world class infrastructure with state of the art technology for academic delivery. Only aspect that students have shown slight dissatisfaction towards was the cost of the program which is an important factor to be considered.

## Keywords

Satisfaction, Kano Model, Loyalty

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## 1. Introduction

Education is described as a process of facilitating learning, knowledge acquisition, and development of skills, beliefs, habits and values. Several methods of education are in vogue such as storytelling, teaching, discussion, training and research. Conventionally, it happens under the guidance of a learned person in a formal or informal setting, and the experience people acquire, has a formative effect on their thinking, feeling and behaviour.

The definitions indicate that education is essentially a service. The academic delivery at university is also considered as a service delivery process and the

quality of the same is judged by the students, largely around the performance of the individuals or parties involved in delivery of these services. The key characteristics of academic services are intangibility, variability or heterogeneity, inseparability and perishability [1]. Education is intangible—cannot be seen, tasted or touched like tangible goods. Neither it can be stored, exhibited or tested in advance. It is variable—varies with instructor, and as a matter of fact, with the settings and timeframes as well, means the same instructor may deliver the same content differently at different times and in different settings. Inseparability of education as service is clear from the fact that it is produced and consumed at the same time and its production in advance is not possible. A student who enrolls for a particular program is provided coaching or tuition or learning by way of his/her participation in the class. Perishability *i.e.* services cannot be stored, resold or returned, applied to Education. Furthermore, it makes coordination of demand and supply—the number of students opting for a course, number of faculty resources required and a suitable physical environment—all the more important.

Three levels of education system viz. elementary education, secondary education and higher education are imparted across two major platforms. The elementary education and secondary education are imparted at the schools whereas universities or colleges impart higher education. Education is provided by two types of institutions, namely public and private institutions. Public institutions are set up by the government, and accordingly managed and funded as well, by the government. When the public institutions are insufficient to provide universal access to education to all, largely owing to limited resources, then the private education providers come into picture. Some of the private institutions receive funding from the government (aided institutions) or they may be completely self-funded (unaided institutions). Private sector in the general market is associated with a profit motive. However, in the education sector, private education entities are expected to operate with a not for profit motive.

## **2. Emergence of Private Universities in India**

As is understood today, in India, the development of the university system is only a century and a half old; the British Government had set up the first ones in 1857 in three provinces namely Mumbai, Calcutta and Madras akin to the pattern of the London University at that time. With the establishment of these universities, an organized system of education was introduced in India and also the pace of the development was boosted through the establishment of more and more colleges for providing higher education opportunity to large number of students. In India, the field of higher education has witnessed significant growth since independence in 1947, with the increasing number of higher education institutions, and the student strength in these institutions correspondingly going up. The phenomenon of private higher education in India is not new per se; it has been into existence during the ancient and medieval periods as well. Private

Education Sector supported by the State funds existed till 1980 in India. Private institutions that do not rely on the state funding have started growing around mid-1980s [2].

The higher education in India was controlled by the Government till 1980s and thereafter a trend has been set in towards privatization of higher education [3]. Several reasons can be attributed for the emergence of the higher education sponsored by the private sector in the country. Firstly, the private sector was necessitated by the slow pace of liberalization and globalization. Secondly, the public sector was unable to meet the demand for higher education which paved the way for the private sector to expand and thirdly the government was unable to provide adequate financial support to the system. In India, the private sector for a long time has been funding higher education, albeit on a limited scale. During the period from 2001 to 2006, around 30% increase in enrollments has been reported across unaided private institutions offering professional courses. The country has witnessed a trend of foreign education providers and private universities that are emerging as financially independent entities [4].

Jayaram [5] mentioned that the initiatives for private higher education were introduced in two forms—first, through private colleges that were formally affiliated with a university and second, through colleges and institutions those were privately owned and managed, mostly offering courses outside the purview of the Indian universities. The new private initiative these days is the concept of twinning programs, that involves collaboration between two educational systems, both taking the responsibility of teaching and training the students with either or both of these institutions awarding the educational credentials. Establishing private universities under the Act enacted by the State Private University Act by individuals and trusts has become a new trend of privatization of higher education in the country.

Literature reveals that Chattisgarh is the first state in the country that pioneered the concept of State private university in India with its legislative enactment in 2002. As per this act, the government by notification in the Gazette, can establish the private university with the required recognition and authorization for conducting the courses and awarding the degrees or diplomas. Subsequently, many states have imitated the same approach and established private universities through state legislative acts. The University Grants Commission (UGC) regulates the private universities in India. According to the UGC, there are 344 private universities operating across the country as on 31 March 2019, approved by the UGC [6].

Private Higher Education Sector is the fastest growing sector in many developing countries of Africa and Asia. There is higher number of private universities than public universities in African countries. However, when it comes to enrollment of students, the public institutions have higher numbers than the private institutions in Africa [7]. In India also, the public institutions dominate the private universities in terms of size but not in enrolments per se. The state-wise distribution of private universities in India shows that Rajasthan, Uttar Pradesh, Gujarat, Madhya Pradesh, Himachal Pradesh and Haryana have

large number of private universities. These private universities are competent to award degrees with the approval of their statutory councils. State-wise distribution of private universities in India which have got more than 10 private universities as on 31 March, 2019 only are presented in **Table 1**.

Private Universities in India today account for about 40% of the students enrolled in higher education programs and this is going to witness an upward trend in the near future. Private Universities are mushrooming and flourishing in the country predominantly because of fewer regulatory controls and higher autonomy. These institutions generally offer only revenue-oriented market driven programs like MBA, Medical and Engineering, and do not concentrate much on other disciplines like Fine Arts, Culture and History which jeopardizes the concept of being a university. Keeping this into consideration, the state governments have a bigger role to control and monitor the quality of education being imparted by the private universities at primary and higher levels.

### 3. Student Satisfaction

Satisfaction is defined as a feeling of happiness that an individual gets when he or she fulfills his or her desires and needs. It is a state of mind that a person experiences by virtue of a performance or an outcome that satisfies his or her expectations.

Student satisfaction influences not only how much a student enjoys his or her time at the university, but also how well he or she does in studies. Broadly speaking, students' grades, course participation, relationships with the lecturers, attendance and employability after course completion and allied outcomes, to a

**Table 1.** State-wise distribution of private universities ( $\geq 10$ ) in India.

#	State	No. of Private Universities
1	West Bengal	10
2	Chattisgarh	11
3	Maharashtra	13
4	Jharkhand	14
5	Punjab	15
6	Uttarakhand	17
7	Karnataka	17
8	Himachal Pradesh	17
9	Haryana	22
10	Uttara Pradesh	29
11	Madhya Pradesh	33
12	Gujarat	34
13	Rajasthan	51

Source: University Grants Commission (<https://www.ugc.ac.in/>).

certain extent, are reliant on how much they enjoyed their time at university, or precisely how engaged they were. As such, not only is student satisfaction vital for promoting life at the institution, but it can also yield an important impact on a university's standing in global rankings.

#### 4. Kano Model of Customer Satisfaction

A Japanese professor Kano [8] along with his team developed a model which can categorize and prioritize customer needs. It is basically a user satisfaction model based on the product quality feature using two dimensional approach (non-linear) to measure the customer's perceptions *i.e.* to understand the customers delight or disgust when a particular attribute is present or absent.

The model (Figure 1) uses an orthogonal axis to indicate relationship between the customer satisfaction and product function. It divides the product attributes into three categories; threshold or must be, performance and excitement [9]. Basic qualities required by the students (marked as "M" must be); expected qualities which is also termed as performance (marked as "O" one dimensional); and attractive qualities which are called excitements, as these qualities are something that students do not expect in general (marked as "A" attractive).

It is expected that any product or the service is portrayed by the basic qualities without which it will not be what it is supposed to be. According to Kano model, the basic qualities in the product or services themselves establish only a limited influence on the student satisfaction. For example, a service in the form of a faculty delivering lecture without basic qualities will not make the student satisfied. In order to make the students satisfied, the faculty must possess additional qualities which students expect. Kano model assumes that the student satisfaction is proportional to the number of expected qualities. The highest quality is offered by the private universities which have the features or services that other

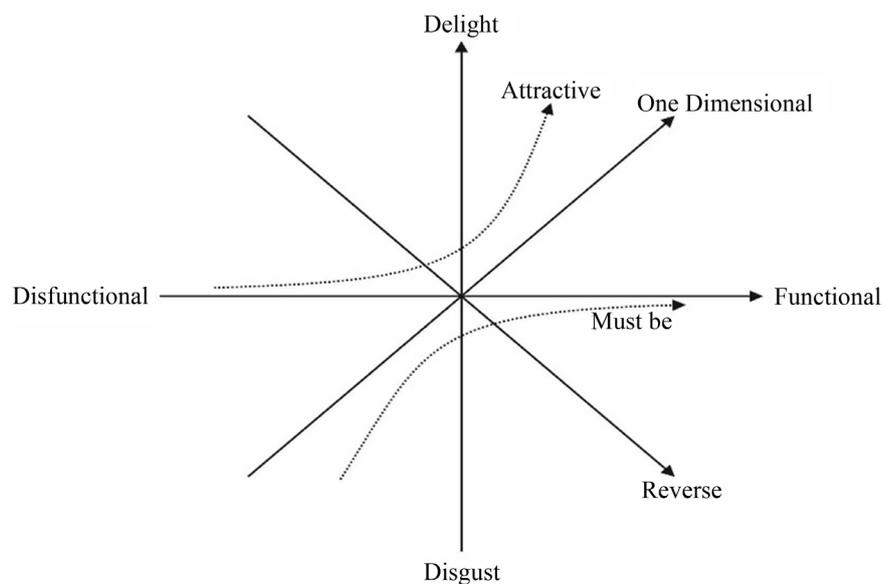


Figure 1. The Kano model.

universities do not have. These qualities are attractive and cause excitement to the students as these are something beyond their expectations. The excitement qualities are those which are provided by the virtue of competition which serves as a distinguishing factor. This will lead to increased student satisfaction and exceed the expectations of the students. Over a period of time, the basic qualities are required to be updated continuously, as these may be imitated by the competitors. For example, teaching through webinars or seminars would interest the students initially *i.e.* for a limited time but again as time passes, the excitement derived from learning through webinars is likely to get diminished [10].

Kano model indicates that fulfilling just the basic needs will make the students accept the university. In order to make the students excited about the university they are studying at, these universities have to fulfill certain service attributes associated with performance and attractiveness. For example, some universities have student clubs such as finance club, science club, technology club etc. where students learn outside the classroom while organizing these events. In addition to the three categories namely basic, expected and attractive, Kano questionnaire does delineate other categories like Questionable marked as “Q” where the students are happy with one service, yet not sure about it and it reflects as dissatisfaction; the other categories include Indifferent marked as “I” where the students are found to be completely indifferent about a service and the last category is Reverse marked as “R” where the students like the fact that a particular service is available or the fact that particular service is not available.

## 5. Review of Literature

Rapid expansion is witnessed in the education sector all over the world in the past few years. The digital revolution and globalization have set a demand for varied and innovative disciplines in education. The cost of studying at the universities has significantly gone up owing to better teaching methodologies and technologies. The increase in the number of institutions has generated competition among the education providers [11]. Students are able to procure information about the colleges easily and instantly with the advancement in the technology. In the current environment of competition, only the institutions providing excellent education can survive the competition [12].

Several studies have been conducted to measure the satisfaction of the students studying at the universities in various countries. Researchers have identified various factors that can potentially affect the satisfaction of the students regarding education provided at the universities. Aldridge and Rowley [13] opined that good quality education in the universities provide better learning opportunities and suggested that the degree of satisfaction or dissatisfaction strongly affects the student’s success at the university.

Satisfaction is the state of mind a person experiences with the outcome in terms of fulfillment of the needs or desires. A person would perceive himself/herself satisfied when he/she accomplishes the expectations. According to

Kotler & Keller [14], satisfaction refers to the feeling of pleasure, happiness or disappointment coming from comparison of perceived performance against the expectation. Oliver [15] defined satisfaction as a perception of pleasurable accomplishment of a service. When a person perceives that the services are good, he or she would feel satisfied; correspondingly he or she would feel dissatisfied when the expectation of services crash.

Aldridge and Rowley [13] conducted research on a group of students at a university in the United Kingdom to measure the satisfaction levels of the students. The results indicated that a negative quality model was useful in measuring the phenomenon. The model underlined that the institutions should respond to occurrences that lead to dissatisfaction and address the same when they happen, as continued perception of less quality will lead to destruction.

Hennig *et al.* [16] conducted a study at the universities in Germany using a model of loyalty with relationship quality, based on which they found that the quality of teaching along with the emotional bonding towards the institution served as imperatives for students' loyalty. Student Retention at the University is considered as one of the indicators of student satisfaction and obliquely the quality of the education in the university [17]. Palacio *et al.* [18] revealed through their study conducted at a Spanish university, that the university image has significant influence on the student satisfaction.

Navarro *et al.* [19]'s survey on the Spanish University students revealed that teaching staff, teaching methods and course administration served as the principal factors for achieving student satisfaction and subsequently earning their loyalty towards the university. Mai [20] highlighted that overall impression of the college or university, impression of the quality of education, expertise of the teachers and their interest in the subject, accessibility of IT facilities and advanced prospects for the students were the most important predictors when it comes to determining the satisfaction of students.

Deshields *et al.* [21] have applied Herzberg's Two Factor Theory for identifying the determinants of the satisfaction of students, with education. They established that the performance of the faculty and classes are the key factors that determine the quality of the institution which in turn leads to satisfaction. Customer satisfaction is determined by the perceived service performance against the customer expectations [22].

Satisfaction of the student is a short term attitude corresponding to the evaluation of the student's experience regarding education at the university [23]. Student satisfaction is a positive antecedent of student loyalty [19]. Elliot & Shin [24] defined the students' satisfaction as their disposition of subjective evaluation of the outcomes and experience at the institute. Hence the satisfaction is defined as a function of relative degree of experience and perceived performance of education during the study period. Taking all the factors into consideration, the student satisfaction is understood as a short term attitude resulting from the evaluation of experience, overall services and infrastructural facilities.

Student Satisfaction is influenced by several factors; hence it is a multidimen-

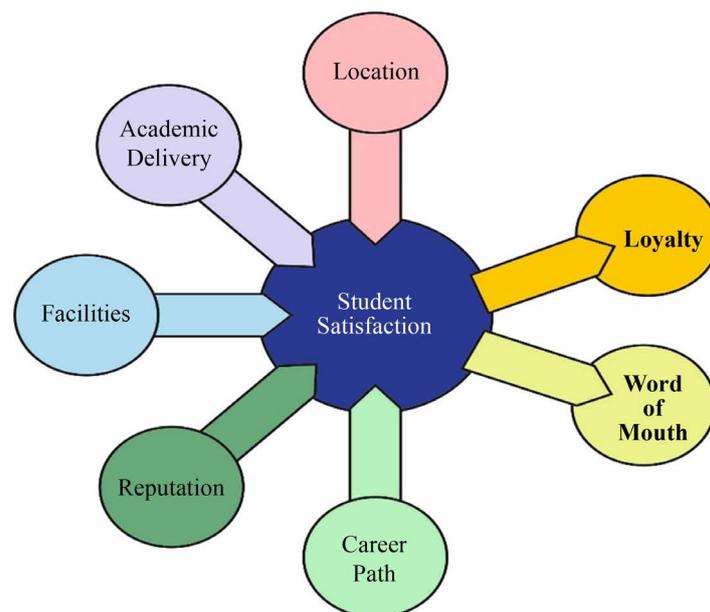
sional process. According to Wilkins & Balakrishnan [25], teaching quality, quality of lectures, quality of infrastructural facilities and use of technology are the key determinants of student satisfaction. At the University, student satisfaction is greatly influenced by the class rooms, feedback mechanism, relationship between student and teacher, interaction with other students, course content, learning environment, and library facilities [26] [27]. Douglas and Douglas [28] have identified that in addition to all these facilities mentioned, flexible curriculum, branding of the university and reputation, independence, student growth and development, campus life, effectiveness of the institution are the major determinants of students' satisfaction in higher education.

Manzoor [29] conducted a study on the students at the universities in Pakistan, to ascertain their satisfaction and suggested that facilities provided by the university, like sports, transport etc. have significant impact on the satisfaction of the students. The accommodation facilities provided to students although did not have any significant effect on their satisfaction.

Mazumder [30] conducted a study in Bangladesh, to assess the satisfaction of the students and compared the quality of education at public and private universities. It was observed that the satisfaction level of students studying at private universities was higher compared to the satisfaction level of students studying at public universities.

## 6. Factors Influencing Student Satisfaction

Several researchers based on their studies, have identified various factors such as teacher's role, learning environment, curriculum, supporting staff, future prospects, college facilities and placements etc. that influence students' satisfaction as depicted in **Figure 2**.



**Figure 2.** Framework model for student satisfaction.

As per Fredrickson [31], the satisfaction of students at the institute is largely influenced by the faculty support, curriculum updation and instructional approaches. This was also supported by [32], on the pretext that the faculty quality influences the content received by the students, and hence the scope for maximizing the satisfaction. They also felt that the course curriculum should not be restricted to classroom learning through text books and conducting examination on the completion of the course. While conducting examinations at the completion of the course is predominantly to test the knowledge of the students *i.e.* to what extent he or she has learnt, course work also becomes important for converting theoretical concepts into business/real-world applications.

Students recognize the faculties who have demonstrated knowledge and consistency in teaching skills [28]. Such faculty resources are highly ranked and serve instrumental for student satisfaction. This again was supported by [19] asserting that the faculty members who provide a positive learning experience to students, enhance their satisfaction. Hill *et al.* [33] stated that faculty's role in the institute is key determinant of student's perception about quality education.

De Shields *et al.* [21] pointed out that the relevance of courses with the current trends in the real world, live projects and cases influence students' positive college experience. Shah *et al.* [34] discussed that students are encouraged to enroll in a particular institute and derive maximum satisfaction when the environment comprises of small group and friendly people.

Bezuidenhout & De Jager [35] also felt that the institutions of higher learning should provide safe and secure environment for education and enjoyment, which would result in student satisfaction. The learning environment encompasses psychological wellbeing of the students, safety and security, social integration, respect for students and a sense of belongingness.

Oldfield and Baron [36] opined that positive and cohesive environment amongst students, teachers and other staff members provides a supportive learning environment. They also felt that the courtesy and sincerity towards students correspond to satisfaction with no commercials involved.

Administrative staff at the college plays a vital role in executing and coordinating teaching and learning sessions. While teachers play a very important role in teaching and delivering lectures in the classroom, this functioning is supported by the Administrative staff. Purgailis & Zaksa [32] through their research indicated that the support of administrative staff may not directly lead to the satisfaction of the students, but their absence will result into dissatisfaction.

The factor "future prospects" refers to the students' career possibilities after completing the studies at the university. Bezuidenhout & De Jager [35] suggested that institutions should support the students in fostering intellectual growth and developing essential skills to face the challenges in the globalized world. De-Shield *et al.* [21] pronounced that the cognitive skills, career progress and business skills gained by the students in the university would help them retain their loyalty towards their alma mater.

Bezuidenhout & De Jager [35] found out that the facilities in the college have

profound effect on the student satisfaction. College facilities are broadly categorized into academic and non-academic facilities. The IT lab, library and the classrooms come under the academic facilities and hostel, sports, and socio-cultural activities come under the non-academic activities.

Across the sectors, customers’ satisfaction with the products or services becomes a competitive advantage for the organizations [22]. Richins [37] observed that once a customer is satisfied with the product or service, he regularly buys the same from the same outlet and spreads a positive word of mouth to others which becomes a source for creating new customers whereas the negative word of mouth definitely leads to the subsiding of customers.

### 7. Instrument for Data Collection

The aim of the study is to identify and understand the qualities that correspond to students’ satisfaction in context of the students studying at private universities. However, it is not the intention of the authors to compare the same for students studying at the public or government universities against the private universities. A Kano questionnaire was administered on 193 students studying at the private universities in Uttarakhand to evaluate the qualities like location of the university, academic delivery, reputation of the university, facilities available at the university and career support provided by the university, which gives them more satisfaction. The questionnaire is designed in pairs viz., how the students feel about an attribute that is present is a functional form and not present is a dysfunctional form as shown in **Table 2**. Each question is attributed with two answers to have 25 correlation variants as there are five answers to each question.

Recorded perceptions of the students were evaluated into quality dimensions as specified in **Table 3** on the students’ responses on the functional and dysfunctional questions for different attributes.

If the student answers to the functional questions like “location of the university allows you to spend more time with your friends” as “I like it” and to the dysfunctional questions like “location of the university does not allow you to spend more time with your friends” as “neutral” then the combination of both the answers corresponds to “A” attractive category which indicates that this

**Table 2.** Structure of questions and answers in Kano questionnaire.

	Positive Dimension (Functional form)	Negative Dimension (Dysfunctional form)
Question	How do you feel when a particular attribute or quality is present?	How do you feel when a particular attribute or quality is not present?
Answers	1) Like it 2) It must be that way 3) I am neutral 4) I can live with it 5) I dislike it	1) Like it 2) It must be that way 3) I am neutral 4) I can live with it 5) I dislike it

**Table 3.** Evaluation dimensions in Kano model.

	Satisfaction	Like	Must-be	Neutral	Live with	Dislike
Quality	Negative (dysfunctional)					
Positive (functional)	Satisfaction	Like	Must-be	Neutral	Live with	Dislike
	Like	Q	A	A	A	O
	Must-be	R	I	I	I	M
	Neutral	R	I	I	I	M
	Live With	R	I	I	I	M
	Dislike	R	R	R	R	Q

attribute is attractive to the students as their requirement. In case the combining answers yields category “I”, implies that student is indifferent towards this particular attribute in the university, the student does not care whether this attribute is present or not and does not pay much attention if the location of the university is close to the city or not. The category “Q” is questionable result *i.e.* whether the student understood the question correctly or marked the answer wrongly. However, no attribute received Q rate higher than 1%. The evaluation “R” indicates that students did not want that attribute.

Next step after categorization of the attributes is where one can evaluate the influence of the quality attributes in the university on the extent of complete or total satisfaction. Towards achieving this, one investigates the Satisfaction Coefficient (S) and Dissatisfaction Coefficient (DS) of the students. The overall satisfaction coefficient is the sum of satisfaction and dissatisfaction coefficients [38] [39]. The student satisfaction coefficient shows the extent to which satisfaction increases if the requirement is fulfilled and decreases if the requirement is not fulfilled.

$$\text{Satisfaction Coefficient (S)} = \frac{A + O}{A + O + I + M}$$

$$\text{Dissatisfaction Coefficient (DS)} = \frac{(-1)(M + O)}{A + O + I + M}$$

$$\text{Overall Satisfaction Coefficient (OS)} = S + DS = \frac{A - O}{A + O + I + M}$$

where qualities are; A—Attractive; O—Expected; M—Basic and I—Indifferent.

The Extent of Satisfaction ranges from 0 to 1; Extent of Dissatisfaction ranges from -1 to 0 and the overall satisfaction ranges from -1 to 1. The higher approximation of satisfaction results to 1 for any attribute indicates that higher is the influence of that attribute on the student satisfaction. Similarly the higher approximation of dissatisfaction results to -1, the greater influence of the attribute which is unfulfilled requirement on the student dissatisfaction.

The questionnaire was distributed to students using convenient sampling method. Convenient sampling is a specific type of probability sampling method which relies on data collection from the population who are conveniently availa-

ble to participate in the study. The data thus collected was analyzed using SPSS package.

## 8. Analysis and Results

Data collected has been tabulated based on the qualities and presents the prioritization of the student requirements according to the recommendations of the Kano method. The attributes that indicated and proved to be more attractive and important to students in studying at the private universities in terms of exerting their influence on the satisfaction and dissatisfaction are presented in **Table 4**.

It can be observed from that table that among the requirements pertaining to the academics which students perceived as more attractive to satisfy their needs (“A” category) are quality of the program, content of the program, theoretical knowledge of the lecturers and the availability of lecturers for students to get their doubts cleared after the class hours. The students did not perceive their need (“I” category) pertaining to the location of the university and the lecturers being too friendly with the students as important and the same does not make any difference.

The results from **Table 4** indicate that the characteristics that have profound influence on the student satisfaction (the value of satisfaction ratio near 1) are: “lecturers have sound theoretical knowledge” (+0.78); lecturers are available for consultation after the classes for getting their doubts cleared (+0.69); content of

**Table 4.** Student requirement prioritization according to Kano method and satisfaction coefficients.

Characteristics	Cat	Number of indicators						Satisfaction (S)	Dissatisfaction (DS)	Overall Satisfaction (OS)
		A	I	M	O	Q	R			
University should be close to the city	A	84	64	21	24	0	0	0.56	-0.23	0.32
Location of the university allows you to pursue our hobby	I	60	81	22	10	1	19	0.40	-0.18	0.22
Location of the university allows you to spend more time with your friends	I	66	74	36	17	0	0	0.43	-0.27	0.15
Quality of the program is good	A	101	40	36	16	0	0	0.61	-0.26	0.33
Content of the curriculum is good	A	95	44	13	23	9	9	0.67	-0.21	0.46
Lecturers have sound theoretical knowledge	A	117	26	12	20	4	14	0.78	-0.18	0.60
Lecturers are available for consultation even after classes	A	95	26	22	16	4	30	0.69	-0.23	0.45
Lecturers are too friendly with students	I	32	84	22	12	6	37	0.29	-0.22	0.06
Reputation & Branding of the university is good	A	95	47	16	13	2	20	0.63	-0.17	0.46
Facilities such as hostel, library, computer center, sports, safety and security are good	A	88	45	21	9	7	23	0.59	-0.18	0.41
Placement assistance is provided and the Career path is very good	A	91	51	30	15	0	0	0.56	-0.24	0.32
Cost of the program	A	70	40	44	23	6	10	0.525	-0.379	0.147

the curriculum (+0.67) followed by the reputation and branding of the university (+0.63). The least influential characteristic in terms of student satisfaction is “lecturers are too friendly with the students” (+0.29). With respect to dissatisfaction of the students, the characteristics that caused slightly higher levels of dissatisfaction are: “location does not allow you to spend more time with students (-0.27) and the cost of the program (-0.38).

## 9. Conclusions

The Kano model used to assess the student satisfaction in the current study has differentiated the attributes that influence the satisfaction of the students studying at the private universities. Amongst the main reasons that correspond to the satisfaction in the private universities is that these universities attract qualified and knowledgeable faculty, and possess world class infrastructure with state of the art technology for academic delivery, which have made the students thoroughly satisfied. Only characteristic that students have shown some dissatisfaction about, is the cost of the program which obviously is an important factor to be considered. The only source of funding in the private universities is the student fee and also the competition for getting the best faculty is very high. Hence, the wages also are high.

The above analysis on the characteristics to identify the satisfaction of the students at the private universities has indicated that the Kano model allows for finding out the answers to the question “why students are satisfied”. The Kano questionnaire has served as an excellent tool in the evaluation of the location, academics, facilities, reputation and the career path, as drivers of satisfaction for the students at the university, as a valid alternative to the traditional questionnaire.

## Conflicts of Interest

The authors declare no conflicts of interest regarding the publication of this paper.

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