

An applied marketing model for university students' satisfaction

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ABSTRACT

Educational institutions like any other organizations are realising the significance of customers in their strategic decision-making process. The purpose of this study is primarily identifying the effective services factors on students satisfaction offered by Semnan University, secondly classification of these factors and finally determination of the priorities of any mentioned factors in the related category based on Kano's model. This study is a field method in which focus group interview was used resulted exploration of 27 effective factors for students' satisfaction that were used as indexes for questionnaire. The questionnaire was designed in 4 parts and distributed among 384 students. The samples were chosen by stratified random sampling method students in levels of associate of arts, B.S, and Ms. Degrees. The gained data of the questionnaires were analyzed in the three stages. First a Binominal test was administered and effectiveness of 27 variables on the student s satisfaction was clarified. On the second stage, based on Kano's model the kind of influence of 27 variables on the student s satisfaction was clarified. On the final stage, Friedman test was administered to identify the priority of the 27 influential variables on student s satisfaction.

Keywords: satisfaction, services, Kano's model – must- be requirements, one- dimensional requirements, attractive requirements.

1. INTRODUCTION

Accordingly, today, the Universities use, increasingly, the customer centered services method to meet the student's needs as well as possible. (Bilgili and Unal, 2008).The rapid development of Universities and educational centers, the increasing importance of the cost of the University's educations and changes in population combination have imposed pressure on Universities to think about the role of the students' satisfaction for their continuity differently (Ekinic, 2004). The critical problem of Universities is that they don't know their students needs thoroughly. The Universities try to recognize the systematic requirements and demands of the students, but the effective method has not been defined, yet. The identification of the effective factors in making students' satisfaction is necessary and important, and this necessity causes our study to be done to identify the qualitative requirements about students' attitudes on offered services to increase students' satisfaction, then by using this information Universities should reinforce the positive factors and improve the negative factors, in order to maximize students' satisfaction as much as possible. The purpose of this study is threefold: 1- Identifying the effective services factors on student's satisfaction offered by Semnan University. 2- Classification the effective services factors on students satisfaction offered by Semnan University, based on Kano model. 3- Determination of the priorities of any mentioned factors in the related category based on Kano's model.

By using the collected data of relating to its own organization, this study helps the managers of Semnan University and other Universities to act more effectively in order to recognize the student's opinion, in order to make a structure for managers, designers and decision makers of the University to enable them to improve these services having more influence on students.

2. LITERATURE REVIEW

2.1. Kano's model of customer satisfaction

Understanding what customers expect from a service organization is important because expectations provide a standard of comparison against what customers judge an organizations performance (Sauerwein, 1996). Many customers seldom complain when a products quality is not up to expectation, such customer simply switch to a competitors or alternative product to fulfill their needs at the next purchase (Shen et.al. 2000). One way to attract and retain customers is to ensure customer satisfaction (Tontini, 2003). Kano and et al. (1984) developed a model to characterize the attribute of a product or service based on how well they are able to satisfy needs (Vontivilu, 2005).

The Kano model can help to gain a profound understanding of customer satisfaction. According to Kano, people expect that a product should meet their three kinds of requirements /needs (see figure 1):

1- The must-be or basic requirements (needs)

For these needs, customers will be extremely dissatisfied if these requirements are not fulfilled. However, customer satisfaction does not rise above natural even with a high performance. Fulfilling the must-be needs will only lead to "not dissatisfied". In other words, customer takes these requirements for granted them as prerequisites. For example, British rail found that when average punctuality exceeds a certain level there is no increase in customer satisfaction. But if punctuality does not meet customer's expectation it causes a high level of dissatisfaction. Punctuality is a must-be requirement. For fulfilling this minimum requirement British rail does not get "bonus point" (Matzler and Hinter Huber, 1998).

2- The one-dimensional requirements (needs)

For these needs, customer satisfaction is proportional to the level of fulfillment the higher the level of fulfillment, the higher the customer's satisfaction. In other words, customers satisfaction is a linear function of the performance of the product/service attribute. For example, larger sale discounts normally result in higher customer satisfaction, which also explains why low fares provided by low cost carriers are so popular (Huiskonen & Parttila 1998).

3- The attractive or excitement requirements (needs)

For these needs, they pose the attributes which have the great influence on how satisfied a customer will be. These needs are not explicitly expressed or expected by customers. Fulfilling these requirements leads to more than proportional satisfaction. Yet there is not a corresponding decrease in customer satisfaction if these needs are not met. For example, Brandt (1988) states an airline that offers an in-flight telephone service may provide a value enhancement to business travels that otherwise lose opportunities to communicate with their respective customers and /or home office. Yet the absence of this service will not necessarily result in customer dissatisfaction or loss of passengers.

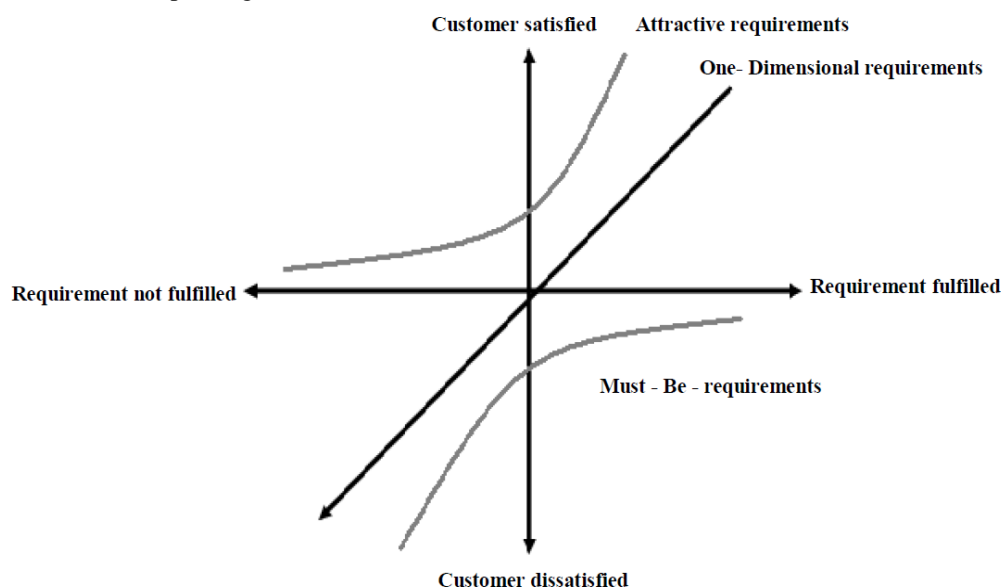


Figure 1. Kano's model customer satisfaction (Berger et;al, 1993)

3. RESEARCH METHODOLOGY

This study is a field method in which focus group interview was used resulted exploration of 27 effective factors for students' satisfaction that were used as indexes for questionnaire. These 27 factors are shown in table 1. The number of the current research sample members is 384 persons the volume of which is gained through the Morgan table. The samples were chosen by stratified random sampling method students in levels of associate of arts, B.S, and Ms. Degrees. Totally 400 questionnaire forms were prepared. As a result of the elimination of the mistaken and missing forms, 384 forms were evaluated. In the study, the data tool was questionnaire forms, these forms were applied in October 2010. The applied questionnaire in this research includes 4 sections each of which is described as below:

1- The first section of this questionnaire consists of general questions.(the demographic features of the participants who are the students)

2- The second and third sections of this questionnaire have been designed on the basis of standard method proposed by Kano model. On the based on Kano model, an even question is designed for each of product/ service features that the customer can select one of the 5 choices: I like it, it must be so, indifference, I live with and I dislike it, which on the base of Likert scale have been designed. The first question shows the customers' reaction in case of considering one feature in the product/ service which is called the functional form of the question or positive section of the question. The second question represents the clients' reaction in case of non considering the same feature which is called dysfunctional form of the question or the negative section of the question.

3- The fourth section of the questionnaire includes 27 questions. In this section, the importance of each of the effective factors on students' satisfaction has been questioned from the view points of the students, and the Likert scale is used to design it which is one of the common measurement scales. The main objective of the designing this section is the priorities of each of the effective factors on students 'satisfaction.

Table 1. Variables of study

1-Feasibility of wireless internet usage
2-Feasibility of giving some student's services (such as: food reservation, the receipt of the student's letters, offering the graduating affairs, giving loan) by the university site.
3-Feasibility of digital libraries and international valid scientific site by the university site.
4-The sufficiency of parking lots.
5-The beauty and cleanness of the university yard.
6-The beauty and cleanness of the university classes.
7-The polite treatment of the university staff.
8-Handling students' administrative work with optimal rapidity and care.
9-Availability of the instructional modern equipments in the classes (for example, video projector)
10-Availability of the buffet in the dormitory
11-The cleanness and beauty of the dormitory surrounding
12-Availability of the shopping centers in university
13-Providing of the students' associations for supporting from students' rights.
14-Performing of the celebrations on different occasions and inviting from famous individuals.
15-Making educational consulting and psychological centers in the university
16-Existing of the medical centers in the university
17-The administration of the scientific seminar and inviting from international, national, famous professors
18-A rich central library
19-Feasibility on students' transferring to their ideal universities
20-Existing of the close relationships with the professors
21-Providing higher scientific degrees on behalf of professors
22-Using famous professors as their members of scientific board
23-Existing of the employment unit in university to help the students in the finding an appropriate job in relation with their course of study
24-Existing of the PHD - degrees in university
25-Administering MS and PHD preparation classes by university
26-The increasing of the amount of the students' loan to pay the tuition fee
27-Administration various English language courses to prepare the students for different tests like TOFELL

4. RELIABILITY AND VALIDITY

In this research, Cronbach Coefficient Alpha method has been used in order to measure the consistency of the questionnaire the results of which has been shown in table 2.

Table 2. Cronbach Coefficient Alpha obtained for the questionnaire questions separately.

Section related to questionnaire	Cronbach Coefficient Alpha
The second section	0.81
The third section	0.80
The fourth section	0.83

5. DATA ANALYSIS AND RESULTS

The gained data of the questionnaires were analyzed in the three stages. First a Binominal test was administered and effectiveness of 27 variables on the student s satisfaction was clarified. On the second stage, based on Kano's model the kind of influence of 27 variables on the student s satisfaction was clarified. On the final stage, Friedman test was administered to identify the priority of the 27 influential variables on student s satisfaction.

5.1. The test of variables' influence on students' satisfaction (Binominal test)

To evaluation the influence of all 27 variables on student's satisfaction, the Binominal test has been used. The results of the Binominal test of all effective variables on the students' satisfaction are shown in table 3. Indeed, in this section the following hypothesis has been tested.

H_0 = 27 variables don't influence on students' satisfaction.

H_1 = 27 variables influence on students' satisfaction.

Table 3. The test result of all effective variables on the students 'satisfaction

Variables	Test probability	Asymp. Sig. (1-tailed)	error	Variables	Test probability	Asymp. Sig. (1-tailed)	Error
Factor 1	0.6	0.000	0.05	Factor 15	0.6	0.000	0.05
Factor 2	0.6	0.000	0.05	Factor16	0.6	0.000	0.05
Factor 3	0.6	0.000	0.05	Factor 17	0.6	0.000	0.05
Factor 4	0.6	0.000	0.05	Factor18	0.6	0.000	0.05
Factor 5	0.6	0.000	0.05	Factor19	0.6	0.000	0.05
Factor 6	0.6	0.000	0.05	Factor20	0.6	0.000	0.05
Factor 7	0.6	0.000	0.05	Factor21	0.6	0.000	0.05
Factor 8	0.6	0.000	0.05	Facto 22	0.6	0.000	0.05
Factor 9	0.6	0.000	0.05	Factor23	0.6	0.000	0.05
Factor10	0.6	0.000	0.05	Factor24	0.6	0.000	0.05
Factor11	0.6	0.000	0.05	Factor25	0.6	0.000	0.05
Factor 12	0.6	0.000	0.05	Factor 26	0.6	0.000	0.05
Factor 13	0.6	0.000	0.05	Factor27	0.6	0.000	0.05
Factor14	0.6	0.000	0.05				

Regarding to obtained results of the mentioned table, with 95 percent of level of confidence, science the sig is less than the error. ($0.000 < 0.05$), we arrive at the result that the hypothesis of H_0 is rejected. Regarding to the sig (0.000) of each the mentioned 27 variables is less than the error (0.05) could be result that the importance degree of each of these variables is not the average level. Since, for each of these variables, the proportion of the choices less than and equal to 3 is less than the 0.6 test probability which could be resulted that the degree of importance each one of these variables is more than the average level.

5.2. The variables analysis by using Kano model

The obtained data from the second and third sections of the questionnaire which are gathered according to Kano model try to identify the kind of influence of each of the 27 factors are considered in the questionnaire, on the students' satisfaction, in order words, the goal of this section is the identification and classification of the effective 27 factors on the students' satisfaction into 3 groups: must - be requirements, one-dimensional requirements and attractive requirements. The data obtained were tested by means of SPSS Frequency analysis, and Kano's model (see Appendix 1). Consequently each of the 27 factors on the basis of the most frequency belong the following groups, according to the Kano data analysis method. (Table 4)

Table 4. Requirements for each of the 27 factors

Factor	The effective variables on the students' satisfaction	Requirements
1	Feasibility of wireless internet usage	one- dimensional requirement
2	Feasibility of giving some student's services (such as: food reservation, the receipt of the student's letters, offering the graduating affairs, giving loan) by the university site.	must - be requirement
3	Feasibility of digital libraries and international valid scientific site by the university site.	must - be requirement
4	The sufficiency of parking lots.	one- dimensional requirement
5	The beauty and cleanness of the university yard.	must - be requirement
6	The beauty and cleanness of the university classes.	must - be requirement
7	The polite treatment of the university staff.	must - be requirement
8	Handling students' administrative work with optimal rapidity and care.	must - be requirement
9	Availability of the instructional modern equipments in the classes (for example, video projector)	must - be requirement
10	Availability of the buffet in the dormitory	must - be requirement
11	The cleanness and beauty of the dormitory surrounding	must - be requirement
12	Availability of the shopping centers in university	attractive requirement
13	Providing of the student's associations for supporting from students' rights.	one- dimensional requirement
14	Performing of the celebrations on different occasions and inviting from famous individuals.	one- dimensional requirement
15	Making educational consulting and psychological centers in the university	one- dimensional requirement
16	Existing of the medical centers in the university	one- dimensional requirement
17	The administration of the scientific seminar and inviting from international, national, famous professors	one- dimensional requirement
18	A rich central library	must - be requirement
19	Feasibility on students' transferring to their ideal universities	one- dimensional requirement
20	Existing of the close relationships with the professors	one- dimensional requirement
21	Providing higher scientific degrees on behalf of professors	must - be requirement
22	Using famous professors as their members of scientific	one- dimensional

	board	requirement
23	Existing of the employment unit in university to help the students in the finding an appropriate job in relation with their course of study	attractive requirement
24	Existing of the PHD - degrees in university	one- dimensional requirement
25	Administering MS and PHD preparation classes by university	attractive requirement
26	The increasing of the amount of the students' loan to pay the tuition fee	attractive requirement
27	Administration various English language courses to prepare the students for different tests like TOFELL	one- dimensional requirement

5.3. The effective variables priorities on the students' satisfaction (Friedman Test)

The Friedman Test has been used in order to analyze data obtained from the fourth section of the questionnaire and also priorities of these 27 variables

5.3.1. The Friedman Test for all variables

The table 5 shows Friedman Test. In the mentioned method, the hypothesis of the equal mean rank of the 27 effective variables on the students' satisfaction is tested.

Table 5 . Friedman test for all variables

H ₀ Hypothesis	error	Asymp. Sig. (1-tailed)	degree of Freedom	Calculated K2	Test result
The mean rank of the effective variables on the students' satisfaction is equal.	0.05	0.000	26	276.83	Refusal of H ₀

Regarding to the above table, since the sig is less than the error ($0.000 < 0.05$), so H₀ hypothesis is refused, however, with 95 percent of level of confidence can be stated that: The mean rank of the effective variables on the students' satisfaction of Semnan University is not equal to each other, in other words, some variables are more important than the others.

The table 6 shows the mean rank and the priorities of the effective variables on the students' satisfaction of Semnan University.

Table 6. The priorities of the effective variables on the students' satisfaction of Semnan University

Number	The effective variables on the students' satisfaction	Average	Deviation criterion	Mean rank	priorities
1	Existing of the employment unit in university to help the students in the finding an appropriate job in relation with their course of study	4.33	0.902	16.45	First
2	Handling students' administrative work with optimal rapidity and care.	4.31	0.909	16.12	Second
3	The increasing of the amount of the students' loan to pay the tuition fee	4.28	0.896	15.54	Third
4	The polite treatment of the university staff.	4.17	1.136	15.37	Fourth
5	The beauty and cleanness of the university classes.	4.15	1.099	15.19	Fifth
6	A rich central library	4.13	1.058	15.02	Sixth
7	Providing higher scientific degrees on behalf of professors	4.16	0.973	14.78	Seventh
8	Feasibility on students' transferring to their ideal universities	4.11	1.027	14.40	Eighth
9	The cleanness and beauty of the dormitory surrounding	4.04	1.143	14.36	Ninth

10	Existing of the PHD - degrees in university	4.06	1.064	14.23	Tenth
11	The beauty and cleanness of the university yard.	4.04	1.094	14.20	Eleventh
12	Existing of the close relationships with the professors	4.09	1.003	14.19	Twelfth
13	Feasibility of wireless internet usage	4.02	1.059	14.08	Thirteenth
14	Administering MS and PHD preparation classes by university	4.04	1.006	14.00	Fourteenth
15	Availability of the instructional modern equipments in the classes (for example, video projector)	4.01	1.058	13.71	Fifteenth
16	Availability of the buffet in the dormitory	3.99	1.035	13.70	Sixteenth
17	Providing of the student's associations for supporting from students' rights.	3.96	1.146	13.68	Seventeenth
18	Existing of the medical centers in the university	3.98	1.101	13.63	Eighteenth
19	Making educational consulting and psychological centers in the university	3.93	1.178	13.50	Nineteenth
20	Feasibility of giving some student's services (such as: food reservation, the receipt of the student's letters, offering the graduating affairs, giving loan) by the university site.	3.96	1.123	13.48	Twentieth
21	Administration various English language courses to prepare the students for different tests like TOFELL	4.00	1.009	13.47	Twenty-first
22	Feasibility of digital libraries and international valid scientific site by the university site.	3.96	1.056	13.26	Twenty-second Factors
23	Using famous professors as their members of scientific board	3.97	1.031	13.23	Twenty-third
24	The administration of the scientific seminar and inviting from international, national, famous professors	3.91	1.060	12.74	Twenty-fourth
25	Availability of the shopping centers in university	3.78	1.102	12.11	Twenty- fifth
26	The sufficiency of parking lots.	3.78	1.111	11.94	Twenty-sixth
27	Performing of the celebrations on different occasions and inviting from famous individuals.	3.72	1.135	11.61	Twenty-seventh

5.3.2. The Friedman Test for the attractive requirements variables

The table 7 shows the Friedman Test for attractive requirements variables. In the mentioned method, the hypothesis of the equal mean rank of the 4 effective attractive variables on students' satisfaction is tested.

Table 7. Friedman Test of the attractive requirements variables

H ₀ Hypothesis	error	Asymp. Sig. (1-tailed)	degree of Freedom	Calculated K2	Test result
The mean rank of the effective variables on the students' satisfaction is equal.	0.05	0.000	3	88.81	Refusal of H ₀

According to the above table, since the sig of the test is less than the error ($0.000 < 0.05$), so H₀ hypothesis is refused, however, with 95 percent of level of confidence can be stated that: The mean rank of the effective attractive requirements variables on the students' satisfaction of semnan university is not equal to each other, in other words, some variables are more important than the others.

The table 8 shows the mean rank and the priorities of the effective attractive variables on the students' satisfaction of Semnan University.

Table 8. the priorities of the effective attractive variables on the students' satisfaction of Semnan University

Number	Effective factors on the students' satisfaction	Average	Deviation criterion	Mean rank	priorities
1	Existing of the employment unit in university to help the students in the finding an appropriate job in relation with their course of study	4.33	0.902	2.79	First
2	The increasing of the amount of the students' loan to pay the tuition fee	4.28	0.896	2.65	Second
3	Administering MS and PHD preparation classes by university	4.04	1.006	2.43	Third
4	Availability of the shopping centers in university	3.78	1.102	2.13	Fourth

5.3.3. The Friedman Test for the one- dimensional requirements variables

The table 9 shows the Friedman variance analysis test for the one- dimensional requirements variables. In the mentioned method, the hypothesis of the equal mean rank of the 12 effective one- dimensional variables on students' satisfaction is tested.

Table 9. Friedman Test for the one- dimensional requirements variables

H ₀ Hypothesis	error	Asymp. Sig. (1-tailed)	degree of Freedom	Calculated K2	Test result
The mean rank of the effective variables on the students' satisfaction is equal.	0.05	0.000	11	61.56	Refusal of H ₀

According to the above table, since the sig of the test is less than the error ($0.000 < 0.05$), so H₀ hypothesis is refused, however, with 95 percent of level of confidence can be stated that: The mean rank of the effective one-dimensional variables on the students' satisfaction of Semnan University is not equal, in other words, some variables are more important than others.

The table 10 shows the mean rank and the priorities of the effective one- dimensional variables on the students' satisfaction of Semnan University.

Table10. The priorities of the effective one- dimensional variables on the students' satisfaction of Semnan University

Number	The effective variables on the students' satisfaction	Average	Deviation criterion	Mean rank	priorities
1	Feasibility on students' transferring to their ideal universities	4.11	1.027	6.88	First
2	Existing of the PHD - degrees in university	4.06	1.064	6.87	Second
3	Existing of the close relationships with the professors	4.09	1.003	6.85	Third
4	Feasibility of wireless internet usage	4.02	1.059	6.81	Fourth
5	Providing of the student's associations for supporting from students' rights.	3.96	1.146	6.66	Fifth
6	Existing of the medical centers in the university	3.98	1.101	6.61	Sixth
7	Administration various English language courses to prepare the students for different tests like TOFELL	4.00	1.009	6.57	Seventh
8	Making educational consulting and psychological centers in the university	3.93	1.178	6.52	Eighth
9	Using famous professors as their members of scientific board	3.97	1.031	6.41	Ninth
10	The administration of the scientific seminar and inviting from international, national, famous professors	3.91	1.060	6.25	Tenth
11	The sufficiency of parking lots.	3.78	1.111	5.85	Eleventh
12	Performing of the celebrations on different occasions and inviting from famous individuals.	3.72	1.135	5.73	Twelfth

5.3.4. The Friedman Test for the must- be requirements variables

The table 11 shows the Friedman variance statistics analysis test for the must- be requirements variables. In the mentioned method, the hypothesis of the equal mean rank of the effective must- be variables on the students' satisfaction is tested.

Table 11. Friedman Test of the must – be requirements variables

H ₀ Hypothesis	error	Asymp. Sig. (1-tailed)	degree of Freedom	Calculated K2	Test result
The mean rank of the effective must- be requirements variables on the students' satisfaction is equal.	0.05	0.000	10	64.59	Refusal of H ₀

According to the above table, since the sig of the test is less than the error ($0.000 < 0.05$), so H₀ hypothesis is refused, however, with 95 percent of level of confidence can be stated that: The mean rank of the effective must- be requirements variables on the students' satisfaction of semnan university is not equal, in other words, some variables are more important than the others.

The table 12 shows the mean rank and the priorities of the effective must- be requirements variables on the students' satisfaction of Semnan University.

Table 12. The priorities of the effective must - be variables on the students' satisfaction of Semnan University

Number	The effective variables on the students' satisfaction	Average	Deviation criterion	Mean rank	priorities
1	Handling students' administrative work with optimal rapidity and care.	4.31	0.909	6.65	First
2	The polite treatment of the university staff.	4.17	1.136	6.36	Second
3	The beauty and cleanness of the university classes.	4.15	1.099	6.28	Third
4	A rich central library	4.13	1.058	6.27	Fourth
5	Providing higher scientific degrees on behalf of professors	4.16	0.973	6.17	Fifth
6	The cleanness and beauty of the dormitory surrounding	4.04	1.143	5.95	Sixth
7	The beauty and cleanness of the university yard.	4.04	1.094	5.86	Seventh
8	Availability of the buffet in the dormitory	3.99	1.035	5.71	Eighth
9	Feasibility of giving some student's services (such as: food reservation, the receipt of the student's letters, offering the graduating affairs, giving loan) by the university site.	3.96	1.123	5.64	Ninth
10	Availability of the instructional modern equipments in the classes (for example, video projector)	4.01	1.058	5.62	Tenth
11	Feasibility of digital libraries and international valid scientific site by the university site.	3.96	1.056	5.50	Eleventh

DISCUSSION

In 2008 a study has been done by Bilgili and Unali in Atatürk University. The subject of this study was "*Kano Model Application for Classifying the Requirements of University Students*". In this study, the requirements of customer/students who take education service at Ataturk University are aimed to determine. Firstly, doing focus group interview The focus group study ended up with a total of 35 potential student requirements and the questionnaires were prepared. The questionnaires were applied to Ataturk University students. The requirements obtained according to the data were classified by means of Kano Model as basic requirements, expected requirements, and exciting requirements.

The variables of this study were: 1. Dormitory/residence services, 2. Cleaning and hygiene, 3. Modern equipments and decoration in the classrooms: (projection machine, data machine, etc.), 4. Uncrowned classroom, 5. Food dining hall services, 6. Sign boards on campus and identifying signs on the buildings, 7. The possibilities of doing lessons in the laboratories, 8. Shopping services in school buildings, 9. Student unions and clubs, 10. Psychological counseling services, 11. The possibility of a good communication with the teaching staff, 12. The possibility of communicating with the administration, 13. Transportation facilities on campus, 14.

Scholarships given by the university body,15. Shopping center on campus,16. Sports and entertainment facilities,17. Meeting hours with the teaching staff weekends,18. Some organizations of festivals, concerts and celebrations,19. Celebrities invited to some panels, seminars, etc.,20. The promotion of the university nationally and internationally,21. The good climate of the town where the university is located,22. The positive attitude of the people of the town towards the students,23. Staying overnight facilities of the town,24. The historical, natural sites in town,25. Organizing socio-cultural activities in town,26. Transportation alternatives of the town with other towns (by bus, by train, by plane, etc.),27. The availability of internet services,28. Organizing some courses with certificate,29. The library's having got a rich data base,30. Having got a reunion club or organization to follow up students after graduation,31. Professional development services given after graduation,32 Using the standard deviation system in exams,33. Having got student exchange programs,34. The security system on campus,35. The conformity of the teaching staff in the international scientific standards of criteria.

According to the frequently used answers in Kano Model applied in order to determine the students' expectations from the university services, out of the 35 requirements, 6 variables have been found out to be indifferent requirements; these are as in the following: the number of students in the classrooms, the existence of the sign boards on campus and university buildings, the existence of student unions and clubs, the psychological counseling services, the existence of a place where students could meet with the teaching staff at weekends, the application of standard deviation in the exams. All the other requirements are placed as one-dimensional requirements.

The purpose of present study is primarily identifying the effective services factors on students satisfaction offered by Semnan University, secondly classification of these factors and finally determination of the priorities of any mentioned factors in the related category based on Kano's model. Our study is a field method in which focus group interview was used resulted exploration of 27 effective factors for students' satisfaction that were used as indexes for questionnaire. The questionnaire was designed in 4 parts and distributed among 384 students. The samples were chosen by stratified random sampling method students in levels of associate of arts, B.S, and Ms. Degrees.

The gained data of the questionnaires were analyzed in the three stages. First a Binominal test was administered and effectiveness of 27 variables on the student s satisfaction was clarified. On the second stage, based on Kano's model the kind of influence of 27 variables on the student s satisfaction was clarified. On the final stage, Friedman test was administered to identify the priority of the 27 influential variables on student s satisfaction.

The variables of our study are: 1-Feasibility of wireless internet usage, 2-Feasibility of giving some student's services (such as: food reservation, the receipt of the student's letters, offering the graduating affairs, giving loan) by the university site. 3-Feasibility of digital libraries and international valid scientific site by the university site. 4-The sufficiency of parking lots. 5-The beauty and cleanness of the university yard. 6-The beauty and cleanness of the university classes. 7-The polite treatment of the university staff. 8-Handling students' administrative work with optimal rapidity and care. 9-Availability of the instructional modern equipments in the classes (for example, video projector) 10-Availability of the buffet in the dormitory 11-The cleanness and beauty of the dormitory surrounding 12-Availability of the shopping centers in university 13-Providing of the students' associations for supporting from students' rights. 14-Performing of the celebrations on different occasions and inviting from famous individuals. 15-Making educational consulting and psychological centers in the university 16-Existing of the medical centers in the university 17-The administration of the scientific seminar and inviting from international, national, famous professors 18-A rich central library 19-Feasibility on students' transferring to their ideal universities 20-Existing of the close relationships with the professors 21-Providing higher scientific degrees on behalf of professors 22-Using famous professors as their members of scientific board 23-Existing of the employment unit in university to help the students in the finding an appropriate job in relation with their course of study 24-Existing of the PHD -degrees in university 25-Administering MS and PHD preparation classes by university 26-The increasing of the amount of the students' loan to pay the tuition fee 27-Administration various English language courses to prepare the students for different tests like TOFELL

According to the frequently used answers in Kano Model applied in order to determine the students' expectations from the university services:

1- The obtained results of the 27 variables consideration by using the Kano model has shown that variables such as: Availability of the shopping centers in university, existing of the employment unit in university for helping the students in finding an appropriate job in relation with their course of study, administering MS and PHD

preparation classes by university and increasing of the amount of the students' loan to pay the tuition fee are the attractive requirements.

2- Studies show that the variables of the feasibility of wireless internet usage, the sufficiency of parking lots, providing of the student's associations for supporting from students' rights, performing of the celebrations on different occasions and inviting from famous individuals, making educational consulting and psychological centers in the university, administration of the scientific seminar and inviting from international, national, famous professors, feasibility on students' transferring to their ideal universities, existing of the close relationships with the professors, using famous professors as their members of scientific board, existing of the PHD - degrees in university, and administration various English language courses to prepare the students for different tests like TOFELL are one - dimensional requirements

3- The obtained results of the effective 27 variables consideration on the students' satisfaction show that the variables concerning to the feasibility of giving some student's services (such as: food reservation, the receipt of the student's letters, offering the graduating affairs, giving loan) by the university site, feasibility of digital libraries and international valid scientific site by the university site, the beauty and cleanness of the university yard, the beauty and cleanness of the university classes, the polite treatment of the university staff, handling students' administrative work with optimal rapidity and care, availability of the instructional modern equipments in the classes (for example, video projector), availability of the buffet in the dormitory, the cleanness and beauty of the dormitory surrounding, a rich central library, and providing higher scientific degrees on behalf of professors are those of must - be requirements .

In addition to results of previous study, in our study the priorities of any mentioned variables in the related category based on Kano's model were determined. The priorities are:

1- The existing priorities of the attractive requirements variables on the basis of students opinion is in accordance with existing of the employment unit in university to help the students in finding an appropriate job in relation with their course of study after graduation, increasing of the amount of the students' loan to pay the tuition fee, administering MS and PHD preparation classes by university and availability of the shopping centers in university

2- The existing priorities of the one - dimensional requirements variables from the students' opinion is in accordance with feasibility on students' transferring to their ideal universities, existing of the PHD - degrees in university, existing of the close relationships with the professors, feasibility of wireless internet usage, providing of the student's associations for supporting from students' rights, existing of the medical centers in the university, administration various English language courses to prepare the students for different tests like TOFELL, making educational consulting and psychological centers in the university, using famous professors as their members of scientific board, administration of the scientific seminar and inviting from international, national, famous professors, the sufficiency of parking lots and performing of the celebrations on different occasions and inviting from famous individuals .

3- The existing priorities of the must - be requirements variables on the basis of students opinion is in accordance with, handling students' administrative work with optimal rapidity and care, the polite treatment of the university staff, the beauty and cleanness of the university classes, a rich central library, providing higher scientific degrees on behalf of professors, the cleanness and beauty of the dormitory surrounding, the beauty and cleanness of the university yard, availability of the buffet in the dormitory, feasibility of giving some student's services (such as: food reservation, the receipt of the student's letters, offering the graduating affairs, giving loan) by the university site, availability of the instructional modern equipments in the classes (for example, video projector) and feasibility of digital libraries and international valid scientific site by the university site.

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APPENDIX – 1

Distribution of the frequency 3 requirements for each of the 27 factors

Factor's frequency Factors	M	O	A	I	R	Q
First Factor	97	144	42	90	10	1
Second Factor	133	89	65	74	18	5
Third Factor	141	88	70	65	17	3
Fourth Factor	75	132	46	112	15	4
Fifth Factor	135	104	63	72	8	2
Sixth Factor	140	91	69	76	7	1
Seventh Factor	140	110	64	57	8	5
Eighth Factor	144	85	75	74	4	2
Ninth Factor	121	93	82	78	8	2
Tenth Factor	131	89	82	75	7	0
Eleventh Factor	132	119	69	60	3	1
Twelfth Factor	76	95	129	67	9	8
Thirteenth Factor	117	130	71	57	7	2
Fourteenth Factor	91	135	80	68	8	2
Fifteenth Factor	97	117	91	72	3	4
Sixteenth Factor	108	123	65	82	4	2
Seventeenth Factor	95	136	83	66	2	2
Eighteenth Factor	177	78	62	62	5	0
Nineteenth Factor	98	162	68	49	4	3
Twentieth Factor	97	170	64	47	3	3
Twenty-first Factor	198	83	45	53	1	4
Twenty- second Factor	96	161	70	48	7	2
Twenty- third Factor	103	80	152	46	1	2
Twenty- fourth Factor	96	148	67	63	9	1
Twenty- fifth Factor	79	59	170	67	6	3
Twenty- sixth Factor	91	88	139	60	2	4
Twenty- seventh Factor	76	175	64	64	4	1

A= attractive

M= must- be

R= reverse

O= operational

Q= questionable results

I= Indifferent