

Providing a Model for Improving the Students' Satisfaction from Governmental and Non-Governmental Universities

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Abstract

Purpose: The research is conducted to provide a model for improving the students' satisfaction from governmental and non-governmental universities in Zanjan province. **Methodology:** The research method is mixed (quantitative-qualitative) exploratory-confirmatory. The statistical population of this research is of higher education professionals active in governmental and non-governmental universities in the qualitative section. Purposive sampling method by using snowball technique and applying theoretical saturation grounded theory of semi-structured interviews for 20 experts was used. The statistical population of the quantitative part of the research included all active students in public universities and nongovernmental universities in the second semester of the academic year 2017-2018. The data collection method of the quantitative section is a researcher-made survey questionnaire. **Findings:** Final model -which consists of dimensions (educational, research, administrative /financial, welfare, cultural, political, technology, virtual, and international), and 23 components and 70 indices about the field of improvement of the student satisfaction- was confirmed by the results of the research. **Conclusion:** The results showed that all these factors should be addressed in Improving the Students Satisfaction.

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1. Introduction

Today, customer's satisfaction is one of the basic requirements of quality management and excellence systems (Kavoosi and Saghaei, 2016). With the understanding of this matter, Manufacturing and service organizations have taken steps to identify the needs and demands of customers in order to best serve the needs of their customers by providing timely and appropriate services. It should be reminded that paying attention to these issues in service organizations by the type of structure, nature, and communication with customers are more prominent (Zhang, Fu, Cai & Lu, 2014).

Educational institutions play a vital role in global and national development (Yi Wu et al., 2012). Higher education is one of the most important service institution for training, development, and human resources supplying, and is the main pillar to the overall progress of each country. This institution has major functions and responsibilities for sustainable growth and development, and it requires a scientific consideration of all sections and its various aspects as a structured entity. Management of educational organizations is particularly sensitive because these organizations deal with humans and are training them to become innovative, creative, and aware humans (Bohm et al., 2008).

Winch (1996), referring to the ambiguity in the definition of customers in education, cites the following reasons: First, it is unclear whether the clients of the system are the same as system customers. Secondly, the stakeholders of this system are very extensive, and third, some of these stakeholders are financial partners. Fourthly, the customer has the right to withdraw from the system in the classical economic market; it seems that in the higher education, this right is less considered for the customer. Customers as stakeholders in higher education institutions can be of two categories: internal and external. It may be appropriate for trained students to be considered as primary external customers, and employers and parents as secondary external customers, and other cases like government, graduates, and the labor market as third external customers, and the training itself as internal customers (Venkatraman, 2007).

Mado (1994) has a different look at customers, and categorize them into incoming customers, conversion customers, and outgoing customers. Parents and students are incoming customers, colleges are conversion customers, and organizations, and society of consumers are outgoing customers. Michael calls college students as the key customers of the university. Elliott & Shane also stated that the main customers of universities are students, and higher education much emphasizes on the providing the students' expectations and needs (Jurkowsch, 2006).

In spite of all the stated ambiguities regarding the customer in the higher education system, it appears that students as the main customer of higher education institutions cannot go out of the customer's circle, and they are considered to be the customer of higher education in almost all researches (Zanjirchi et al., 2011).

2. literature Review

Satisfaction is a multi-dimensional structure and perception, and the main determinant factor of satisfaction and dissatisfaction is the consumer (Gao and Mattila, 2014). Student satisfaction is an attitude that results from assessing the experience of the received educational services (Elliot and Healy, 2001). Student satisfaction as an effective response at times (t); when students are studying at a university, they derive from the assessment of the received educational services, which is ideal as expected by students before entering university (t-1), and university-related ideas and involved variables in the cognitive component of satisfaction (Palacio et al., 2002).

On the other hand, while quality of service is considered as a general assessment of performance, quality relationship is a strategic orientation that focuses on improving customer relationships (Su et al., 2016). The quality refers to the comprehensive support provided by the service provider (Hsu et al., 2015). The focus on the student satisfaction not only enables the university to reengineer its organization to adapt to the needs

of students, but also, it allows the university to create a continuous monitoring system for resolving effectively the student needs (Jurkowitsch, 2006).

Give that the market for academic services has never been as competitive as it is, universities and educational institutions (governmental and non-governmental) all over the world are attempting to achieve a privileged position through achieving to the unique benefits, and producing and providing diverse services than the other competitors, which undoubtedly will attract and retain students. In recent years, it has been possible to provide new, unique and diverse services in educational institutions to increase the supply of demand, and for such institutions there is no choice but to satisfy student satisfaction (Darvish Mutavalli et al., 2011). In this competition market, only that university unit can be successful, which can coordinate its performance and activities with the needs and desires of the students, obtaining students satisfaction and gaining more market share, benefits and profits. (Abdul, Alhassan, 2005).

Give the current state of Iran (the growth of the number of universities and the decline of students), universities should look at students as their main customers and seek to attract new students and preserve Current students. This satisfaction is the key to the success of the university.

Oliveira Santini et al. (2017) performed a study entitled "Student Satisfaction in Higher Education: Meta-Analysis Study". In this study, 83 valid and relevant studies were identified and investigated. These studies have been published from 1986 to 2016, and the following items were analyzed: Dimensions of the perceived educational services value; The resources provided for the student; The quality of the perceived services; The marketing orientation; The identity of the Institute of Higher Education; The university environment; One dimension of the result of student satisfaction. These seven dimensions represent a total of 51 relationships of the field of "student satisfaction from higher education". Carter & Chu (2016) in a research entitled Student Satisfaction as a Customer, Predicting Preservation and Retention with Marketing Concepts, showed that the following factors influence on the student's satisfaction as the main customers of higher education: Academic experience; Teaching quality; Student life; Facilities; and Student support components. Martirosyan (2015) in a research entitled "Investigating the factors affecting student's satisfaction examined and analyzed the following dimensions of the students satisfaction: Faculty services; Academic experience; Student support facilities; Integration of university life with social life; and Demographic dimensions including: Age; Gender; Social class; Field of study; The type of institution; Location of the institution; Housing situation; Permanent residence status; Status of financial assistance; and Employment status .

The results of this research showed that these factors influence on the student's satisfaction. Motefakker (2016) in her research aimed at assessing the level of students' satisfaction showed that the following factors influence on the students' satisfaction: The quality of welfare services; The activities and religious atmosphere of the university; The types of books and university library theses; The conditions of the dormitory; The conditions of the classroom in terms of heat; The lighting and cooling system; The quality of food materials of the self-service; The activities of the scientific committee and cultural centers of the university; Transportation services; The site of the college; and The internet of the university.

Jafari Rad et al. (2015) showed that the following factors influence on improving students' satisfaction with a study entitled "Studying the satisfaction status of postgraduate students from the quality of services provided by public universities in Tehran": the provision of desirable educational, and research, and welfare as well as the administrative services.

3. Methodology

In terms of the implementation process of the research, exploratory mixed method was used as a research method. A sequential-exploratory mixed method was used among the exploratory mixed methods. In this plan, qualitative data were first collected and analyzed, then quantitative data were collected and analyzed in the second stage. Finally, both qualitative and quantitative analyzes were interpreted together (Tabibi et al., 2016).

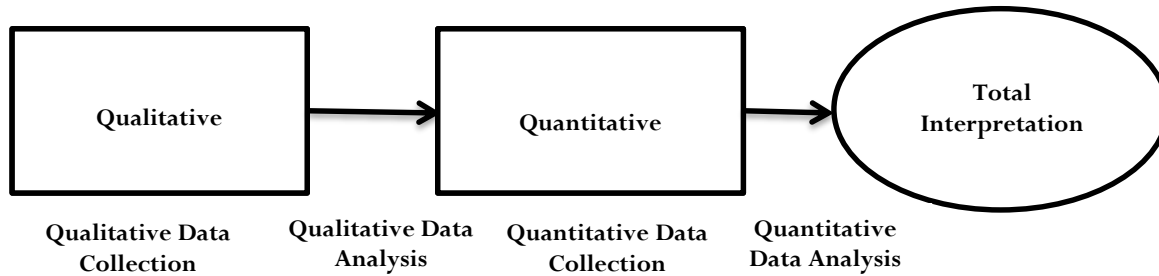


Figure 1. Sequential Exploratory Mixed Method Diagram

The questions were the basis of decision making in the research. To this end, the meta-synthesis approach was used for the first question, which was carried out by using theoretical frameworks and previous related researches, as well as a systematic scheme for examining the views of experts and professionals in extracting the dimensions, components, and students' satisfaction indices was used.

Due to the quality characteristic of the data, one of the most popular methods of analyzing qualitative data was used, which is called coding. In this encryption method, the code was extracted from the text of the article (open coding), and then the extracted code re-encoded another that generated the concepts (axial coding) and ultimately the other encoding was done on the concepts (Selective coding) to achieve categories (Text-Code-Concept- Categories) (Tabibi et al., 2016).

The statistical population of this research in the qualitative section was higher education professionals working in governmental and non-governmental universities of Zanjan province. The purposive sampling using snowball technique and applying theoretical saturation criterion in semi-structured interviews were used from 20 experts (10 governmental universities and 10 non-governmental universities). The statistical population of the quantitative section of the study was all active students studying at governmental universities (Zanjan University and Graduate School of Basic Sciences in Zanjan), (9971 individuals), and non-governmental universities (Islamic Azad University of Zanjan Branch, Abhar Branch, Hidaj Branch, Khodabandeh Branch, Tarom Center and Mahneshan Center), (14,963 individuals) in the second semester of the academic year 2017-2018. A total number of 384 golden samples was selected from each of the statistical populations by Krejcie and Morgan table, and using a proportional stratified sampling method. The data collection method of the quantitative part was a researcher-made questionnaire that consisted of two parts: the first part was consisted of the personal information, and general information (age, gender, marital status, type of university, academic degree, field of study, and academic term). Second part which was related to the main questions, and the research model was 70 of the two-tiered questions (current status and desirable status) in the range of 0 to 10.

After identifying the items and components, a researcher-made questionnaire was adjusted and used. Its formal and content validity of the qualitative section were confirmed by 20 professionals and experts in the field at governmental and non-governmental universities. In the quantitative section, Content Validity Ratio (CVR) and Content Validity Index (CVI) were used. The Content Validity Ratio (CVR=0.79) and Content Validity Index (CVI =0.86) were determined which was higher than the amount specified in the Lawshe Table (0.42).

4. Findings

The first question of the research: What are the dimensions and components of students' satisfaction from governmental and non-governmental universities? In response to the above question, we first studied and reviewed the literature and the history of research at home and abroad (91 items). Based on theoretical framework of the research, the 9 main dimensions of students' satisfaction improvement on governmental and non-governmental universities based on the approach of this research were defined. Their components and indices were identified and determined by means of Confirmatory Factor Analysis Method, and poll from professional advisors and expert consultants that are as follows: 1-Educational Dimension: Components: Teaching and Professor, Student, Educational Content, and Educational System Management. 2-Research Dimension: Components: Meeting, Seminar, Conference, Lecture, Scientific- Specialized 'Committees and Associations', Scientific Productions, and Research Works, Facilities and Research Services. 3-Administration/Financial Dimension: Components: University Management, Staff, Administration Services, and Facilities. 4-Welfare Dimension: Components: Welfare Facilities and Services. 5-Cultural Dimension: Components: Meetings, Associations, Organizations, Seminars, and 'Student and Cultural' Publications, and Extracurricular Activities. 6-Political Dimension: Components: Partnership, Security and Political Justice. 7-Technological Dimension: Components: Educational Hardware, Educational Software, and Technological Infrastructures. 8-Virtual Dimension: Components: E-learning, E-Evaluation, and virtual 'management and support'. 9-International Dimension: Components: University, and Education. KMO and Bartlett tests were used for data adequacy and structural validity (possibility of performing factor analysis).

Table 1.KMO-Bartlett Test Results

Total Questionnaire (Questions 1-70)	Bartlett Sig. Level	KMO
Governmental Universities (Current Status)	0.000	0.953
Non-Governmental Universities (Current Status)	0.000	0.869

As shown in the above table, the KMO value is greater than 0.7 and the significance level of the Bartlett test is below 0.05. Therefore, the quality of the model and the validity of the structure of the questionnaire are confirmed. Therefore, it can be concluded that research data is suitable for factor analysis. The table below shows the students' satisfaction enhancement dimensions along with the factor load of each one:

Table 2. Load Factor of the Dimensions of Students' Satisfaction Improvement from Governmental and Non-Governmental Universities

Research Dimensions	No. of items	Governmental Universities	Non-Governmental Universities
		Confirmatory Load Factors	Confirmatory Load Factors
Educational	13	0.908	0.910
Research	8	0.638	0.635
Administration/Financial	7	0.620	0.616
Welfare	14	0.733	0.729
Cultural	5	0.577	0.572
Political	3	0.589	0.590
Technological	5	0.610	0.608
Virtual	11	0.664	0.666
International	4	0.611	0.610

The second research question: What is the current status of students' satisfaction from governmental and non-governmental universities in Zanjan province? In order to determine the current status of students' satisfaction from governmental and non-governmental universities, the rank of each of the factors based on respondents and using the Friedman ranking index is presented as follows:

Table 3. Friedman Test Results

Friedman Test	Governmental Universities	Non-Governmental Universities
No. of Samples	384	384
Chi-Square	7.365	6.737
Degree of Freedom	8	8
Significance Level	0.498	0.565

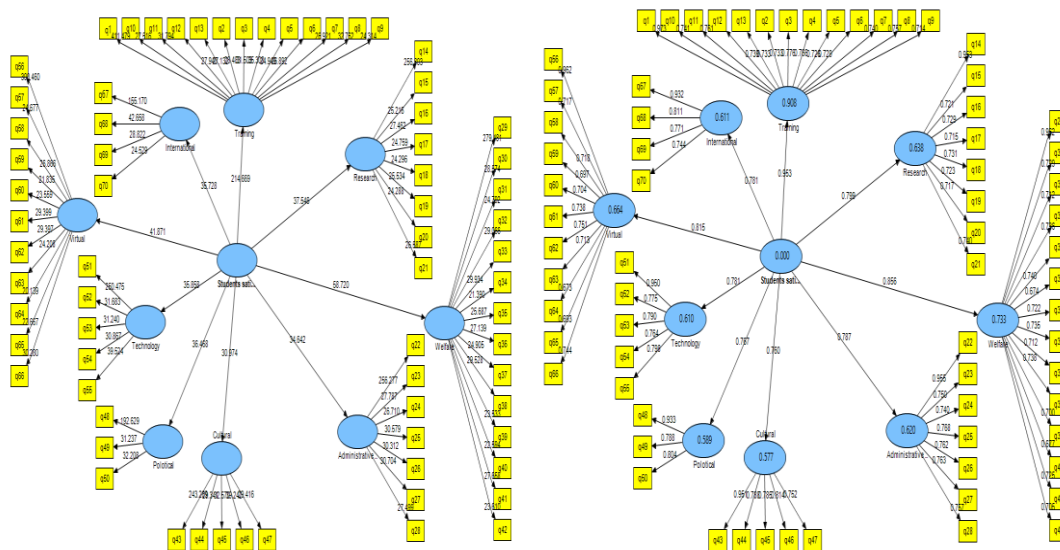
According to the above table and the level of significance for the dimensions of the current status of governmental and non-governmental universities, it can be said that dimensions have not significant difference by each other. The factors ranking results are presented in the following table:

Table 4. The Results of Ranking of Effective Dimensions in Improving Students' Satisfaction from Governmental and Non-Governmental Universities

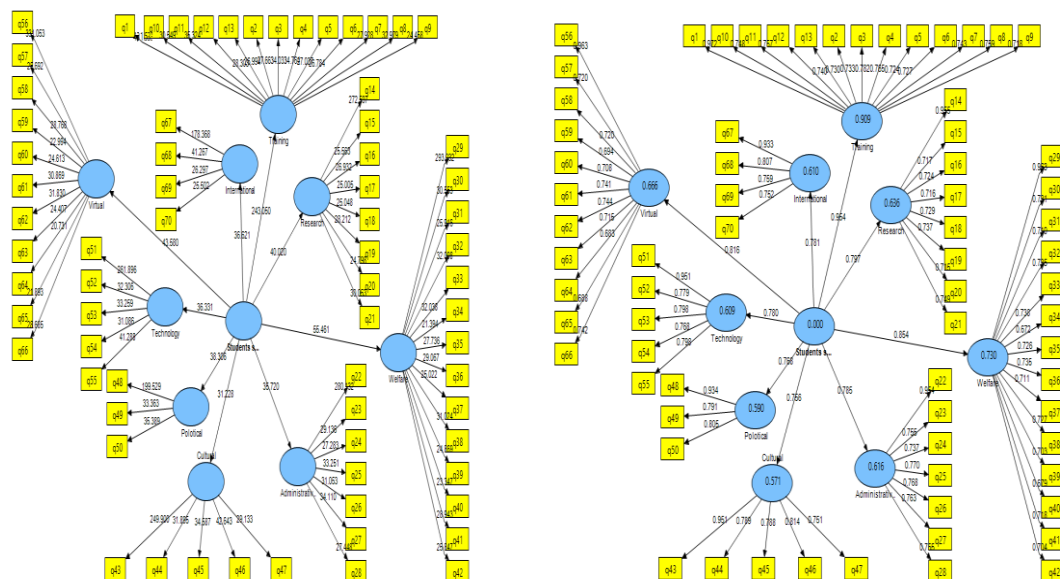
Dimensions	Governmental Universities		Non-Governmental Universities	
	Average of Ranks	Rank	Average of Ranks	Rank
Educational	5.24	1	5.22	1
Research	5.07	3	5.05	4
Administration/Financial	5.17	2	5.14	2
Welfare	5.03	4	5.06	3
Cultural	4.99	6	4.93	6
Political	5.01	5	4.88	7
Technological	4.88	7	5.02	5
Virtual	4.87	8	4.85	8
International	4.84	9	4.83	9

According to the above table, respectively the highest rank is related to the educational dimension and the lowest rank is related to the international dimension in governmental and non-governmental universities.

The Third Question of the Research: How is the proposed model for improving the students' satisfaction from governmental and non-governmental universities?



Graph 1. governmental universities



Graph 2. non-governmental universities

Fourth Question of the Research: What is the degree of fit of the proposed model? Average Variance Extracted (AVE), Divergent Validity (Fornel and Larcker), and Composite Reliability (CR), as well as Cronbach's Alpha Method were used to determine the fitting of the designed model, and the fitting of the research model. The Significance Coefficients T, and Coefficient of Determination Criterion R2, and Q2 criterion were used for fitting the confirmatory factor analysis model. Also, the general model of research was fitted with the GoF Index.

Table 5. The Results of Average Variance Extracted (AVE) Test, Composite Reliability and Cronbach's Alpha

Research Dimensions	AVE		Composite Reliability		Cronbach's Alpha	
	Governmental	Non-Governmental	Governmental	Non-Governmental	Governmental	Non-Governmental
Educational	0.673	0.585	0.957	0.948	0.949	0.940
Research	0.725	0.576	0.934	0.915	0.898	0.892
Administration/Financial	0.644	0.623	0.949	0.920	0.899	0.897
Welfare	0.694	0.541	0.948	0.942	0.954	0.934
Cultural	0.792	0.675	0.963	0.911	0.889	0.877
Political	0.699	0.715	0.891	0.882	0.799	0.799
Technological	0.659	0.675	0.969	0.912	0.884	0.877
Virtual	0.688	0.550	0.945	0.930	0.956	0.916
International	0.661	0.666	0.899	0.888	0.862	0.830
Students' Satisfaction	0.673	0.660	0.986	0.980	0.989	0.979

The results show that the AVE (Average Variance Extracted) for students' satisfaction dimension from governmental universities was 0.661, and from non-governmental universities was 0.660. Considering that the appropriate value of Cronbach's alpha is 0.7, for the composite reliability is 0.7, and for AVE is 0.5, and all criteria are appropriate for estimating the load factors, as a result, the convergence validity of the model and the suitability of the fitting of the measurement models was confirmed. The Fornell and Larcker matrices are presented below for a divergent validity study:

Table 6. Divergent Validity Test (Fornell and Larcker Criterion)

Research Dimensions	Educational		Research		Administration/ Financial		Welfare		Cultural		Political		Technological		Virtual		International	
	G	N-G	G	N-G	G	N-G	G	N-G	G	N-G	G	N-G	G	N-G	G	N-G	G	N-G
Educational	0.807	0.764																
Research	0.722	0.721	0.820	0.759														
Administration/ Financial	0.717	0.718	0.619	0.613	0.851	0.789												
Welfare	0.728	0.757	0.613	0.610	0.609	0.602	0.735	0.802										
Cultural	0.723	0.719	0.563	0.560	0.574	0.575	0.575	0.581	0.833	0.821								
Political	0.751	0.752	0.553	0.552	0.626	0.631	0.587	0.585	0.564	0.561	0.890	0.846						
Technological	0.725	0.726	0.593	0.588	0.564	0.560	0.625	0.627	0.564	0.553	0.587	0.583	0.836	0.822				
Virtual	0.741	0.745	0.606	0.607	0.550	0.546	0.627	0.626	0.568	0.564	0.572	0.571	0.595	0.598	0.812	0.742		
International	0.756	0.751	0.595	0.595	0.599	0.596	0.596	0.596	0.567	0.569	0.642	0.641	0.591	0.589	0.585	0.589	0.829	0.816

As shown in the above table, the divergent validity index of the model dimensions in governmental and non-governmental universities is higher than 0.70. Therefore, the model is confirmed. Fitting of Confirmatory Factor Analysis Model: After reviewing the fitting of the measurement models, turn to fitting of Confirmatory Factor Analysis Model of the research.

Table 7. Results of Fitting of Confirmatory Factor Analysis Model

Research Dimensions	T- Value		R ²		Q ²			
	Governmental	Non-Governmental	Governmental	Non-Governmental	Governmental		Non-Governmental	
					CV Red	CV Com	CV Red	CV Com
Educational	214.669	243.050	0.908	0.909	0.526	0.573	0.527	0.574
Research	37.546	40.020	0.638	0.636	0.361	0.541	0.362	0.543
Administration/ Financial	34.642	35.720	0.620	0.616	0.381	0.606	0.380	0.608
Welfare	58.720	55.461	0.733	0.730	0.395	0.533	0.392	0.532
Cultural	30.974	31.228	0.577	0.571	0.383	0.635	0.380	0.635
Political	36.468	38.306	0.589	0.590	0.410	0.711	0.414	0.714
Technological	35.858	36.331	0.610	0.609	0.403	0.633	0.405	0.640
Virtual	41.871	43.580	0.664	0.666	0.362	0.539	0.364	0.541
International	35.728	36.621	0.611	0.610	0.401	0.670	0.399	0.668

The General Model Fitting: This index is calculated using the following equation:

$$GOF = \sqrt{(\text{Communalities}) * R^2}$$

Regarding the three values of 0.01, 0.25 and 0.36, which are presented as weak, moderate and strong values for GOF, and reaching a value of 0.696 for GOF, it shows a strong fitting for the research model of governmental universities. And getting 0.641 for GOF, it shows a strong fitting for the research model of non-governmental universities.

5. Discussion

Considering the variety of dimensions, components and indices affecting students' satisfaction, as well as the lack of comprehensive vision and agreement in the studies, this article tried to study the dimensions, components and common indices to provide a comprehensive model in order to improve the satisfaction of students from governmental and non-governmental universities in Zanjan province, higher education administrators can use this model based on the results of the present research. According to the findings of this study, there is a significant difference between the present status and students' expectations (desirable

status) from governmental and non-governmental universities. It seems that, the governmental and non-governmental universities in Zanjan province have failed to provide students' satisfaction deservedly and ideally. Therefore, the following suggestions are presented in relation to each aspect of students' satisfaction enhancement:

Educational:

- Educational content should be designed in such a way as to raise individuals' cognition of the issues around them, in line with the latest developments of the day, and give them the power to analyze the issues in different ways for other students of different disciplines. It also expands the power of risk analysis and recognition of opportunities in a way that is tailored to the individual and social needs of students.
- It is essential to develop entrepreneurship education programs based on an interdisciplinary approach and to modify the course-based approach from a lecture-view point. And entrepreneurship education should clarify the vague nature of entering a business, and the core objective of any entrepreneurship education program should be to promote the recognition of opportunities for students. Traditional teaching methods (passive methods) are not a good way to strengthen entrepreneurial spirit and entrepreneurship content training, so special attention is paid to new ways (active methods) such as project methods, empirical and practical methods, and problem solving in teaching entrepreneurship, which should be considered.

Research:

- Access of students to books, journals, and internal and external specialized theses, and cited databases, and up-to-date and authoritative sources, well-equipped labs and many relevant infrastructures at universities and higher education institutions.
- Enabling academic committees and associations at the university.
- Material and spiritual support from the university's ideas, innovations, designs, articles and final theses.
- Interaction and the necessary communication with different institutes regarding the research findings of students and the conclusion of a memorandum of cooperation between academic centers and industrial units for the presence and enjoyment of students of their facilities and the use of potential capabilities of students.

Financial/Administration:

- Managers and administrators of the universities should welcome the students' suggestions and criticisms and listen to the ideas and opinions of the students on various topics. This function of managers, with emphasis on accountability and responsibility, can create confidence and, ultimately, increase the level of satisfaction from students.
- Senior university executives will take steps to monitor and evaluate further, and to provide in-service training courses for increasing the skills and technical abilities of employees, as well as familiarizing them with rules and regulations.
- In the field of financial affairs, university tuition fees should be calculated, determined and evaluated according to the quality of services provided for students.

- In order to increase the level of students' satisfaction from the financial field, providing financial facilities to students (especially non-governmental universities), including providing scholarships, tuition fees, low-interest loans, etc., can be effective. .

Welfare:

- According to the items used to measure the welfare dimension, it is recommended that the university take steps to improve the educational spaces, laboratory facilities and workshops, the quality of the dormitory and student housing, the quality of food, the health status of the dining room, the service of transportation Transport facilities, sports facilities, service centers in the universities, the quality of the campus and the public space and green space of the university.

Cultural:

- Appointment and use of managers with service features. Managers who believe that the transcendental goals of human development can be met if the cultural and human needs of individuals are met, and moral responsibility for them is important.
- training student's skills through conducting workshops, seminars and conferences, cultural associations and ...
- To participate as many students as possible in the formulation of goals and plans on various cultural sections.
- Creation of active counseling centers of various fields of educational, psychology and religion.
- With regard to the expansion of electronic journalism, it is suggested that student publications move on to electronic and blogging in order to take advantage of the technological benefits in this area.

Political:

- Providing conditions for expressing opinions, suggestions and criticisms of students about university political activities.
- Preparation of reviewing sessions and holding free-standing seats for expressing different political views of students by the university.
- Establishing political security for active students' participation in political activities.
- Providing equal conditions for all students to work and participate in various political parties and organizations.

Technology:

- In assessing and selecting a professor, a higher coefficient than other indices should be taken into account in mastering educational technology.
- Developing network infrastructure with appropriate bandwidth and communications platform.
- Development of hardware and network equipment required, including high-capacity clients and terminals, distributed operating systems, high-capacity primary and secondary storage, databases and data storage tanks, Network Switches and Hardware Interfaces.

Virtual:

- Maximum accesses to student to resources and educational packs online and electronically.
- Strengthening simultaneous communication and asynchronous communications (via email, etc.) between the professor and the student.

- Using online professors with the online teaching ability and familiar with online training skills.
- Using virtual educational tools such as video conferencing, teleconference, virtual education software and more.
- Possibility to connect to the Internet and world wide spreadsheets for students at a lower cost.

International:

- Predict and provide joint research projects, academic degrees and joint graduate ships between two or more countries, create more facilities and services in relation to exchange programs such as student exchange, and professor and researcher with. valid world academic and research centers, Removing obstacles and problems of deploying professors to study abroad for facilitating continuous scientific communication with professors and specialists in other countries, facilitating research opportunities and participating students abroad for domestic students international scientific cooperation with reputable universities outside the country and the conclusion of a memorandum of understanding co-operate and execute them.

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