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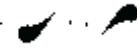
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The Development of a Conceptual Model of Student Satisfaction for Sri Lankan Higher Education

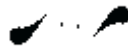
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Abstract

The purpose of this paper is to identify the most affecting factor for the student satisfaction of higher education in Sri Lankan universities and introduce a conceptual model of student satisfaction with their higher education (HE) experience, based on the identification of the variable determinants of student perceived quality. The quality of the university facilities is a dominating factor for student satisfaction. University image has not gained more attention on student satisfaction in the current studies. The quality of the academic staff and non-academic staff must immediately improve to maintain student satisfaction at a higher level. At the same time, facilities of the lecture rooms, laboratories, library, internet, and other drinking water and sanitary facilities must immediately improve to enhance student satisfaction.

Keywords: Satisfaction, Higher Education, Undergraduate Students, Sri Lanka



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Introduction

The industrial environment requires labors with a high level of cognitive skills. Cognitive skill labors can be defined as professionals who know how to think in analytical, critical and reflective ways to understand the problems, decision making and solve the problems by making independent decisions as well as with discussion among groups. Most of the undergraduate degree programs are theoretical subjects that mostly apply to academic institutes or administrative departments. However, as a developing nation, it is important to fulfill the industrial skill labor requirements with our students. Industries should be satisfied with our passing out students. The main failure of our education system is the vacuum between industrial requirement and the knowledge and experience of the degree holder passing out from our universities. To fill the vacuum, the technology stream is introduced to the Sri Lankan education system in the year 2015.

Students may not continue with their post-graduate studies for a variety of factors. They have lost their confidence in what they are studying. They are not from higher-income family and they should contribute to the family income generation process once they have completed the bachelor's degree. Post-graduate studies are costlier and should involve fulltime. They are not sure about job opportunities even after completing the post-graduate degree.

Sri Lankan universities offer diversified degree programs for the undergraduate students by covering five major disciplines: mathematics, science, management and commerce, arts, and technology (University Grant Commission, 2013).

This study mainly focused on the technology stream subjects and students. Students' satisfaction level of the education system and process of the university is considered. The most important reasons behind the dissatisfaction are studied with the questioner survey and develop a relationship to understand it clearly. Finally based on the conclusions developed a model to implement the student satisfaction level of university studies.

Most of the time it is common to hear about organized activism and protests in and around the universities in Sri Lanka. This kind of protest and other organized activism always pointing some heading which they are telling that they don't have or they want to implement by government or university administration. Sometimes, it is about the university facilities, a number of lecturers, lecture halls, canteen or common facilities, mahapola scholarship irregularity (financial support for Sri Lankan undergraduate students) or about hostels and their facilities. However, this kind of organized activism and protests in and around the universities show Sri Lankan students' displeasure towards the state university system.

First of all, research is developed with predetermined eleven hypotheses. Those hypotheses are listed below. Previous research has performed to develop the guidance model to improve the student's satisfaction level (Douglas, McClelland, & Davies, 2008).

There are main eleven factors are affecting the student's satisfaction.

Quality of the Subjects and the degree program

Quality of the Academic staff

Quality of the administrative staff

Quality of the university facilities

Quality of the university location and the host city

Industry - university relationship

Student - staff connection

Number of research projects and other workshops handing by the university

Number of subjects and workload

University image

Financial difficulties

The questionnaire is developed based on the hypothesis and given to the undergraduate students in the Faculty of Technology, University of Sri Jayewardenepura, Sri Lanka. The first year, Second year and Third year all the 960 students are selected for the research. Some of the studies previously have done are referred to while defining the hypothesis (Weerasinghe & Fernando, 2018). The first five hypotheses are mainly considered based on the literature.

This paper reports the results of a study of 300 undergraduate students at the Faculty of Technology, University of Sri Jayewardenepura, Sri Lanka. The main factors for satisfaction at the university are based on the course content, staff quality, facilities, workload, industrial experience and university collaboration, and financial difficulties among students. The questionnaire is given to the randomly selected students from the first year, second year as well as for the third years. The sample size is too small to conclude as the main factors for undergraduate satisfaction for the entire Sri Lanka. However, the faculty of technology students represent the students from every part of the country. The final target of the research is to implement a focused area to improve the satisfaction level of undergraduate students in Sri Lankan universities. Therefore successfully validated model is suggested to improve the level of satisfaction by providing a guidance framework that would allow university staff-student to build a strong relationship to achieve success.

Following Figure 1 shows the undergraduate student variation for different subject areas in the year 2017 for the universities and higher education institutes in Sri Lanka (University Grant Commission, 2019).

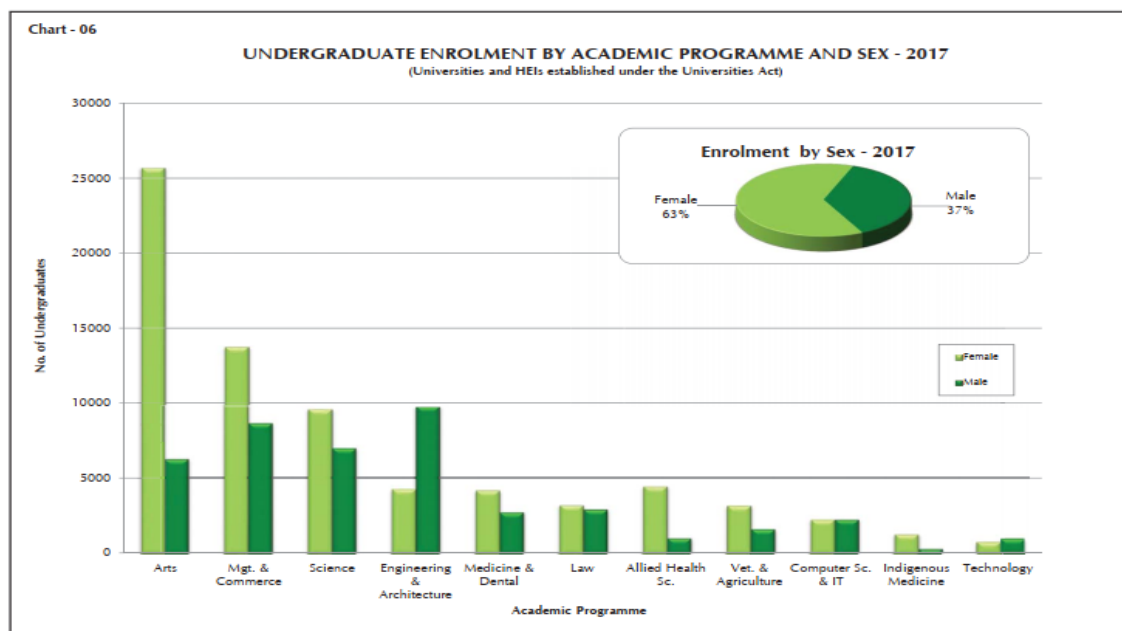


Figure 1: Undergraduate student variation for different subjects' areas in the year 2017 for the universities and higher education institutes in Sri Lanka (University Grant Commission, 2019)

The total number of students is dominating by female students in every field other than Engineering and Technology streams. Based on this figure it is clear that the total number of students who enroll with the university or higher education are dominating by female due to several reasons. The undergraduate degree programs are not popular with male students as those are more theoretical subjects other than Engineering and Technology. They are preferred to study subjects that have more practical and workshop experiences.

Definitions of student satisfaction variables and hypotheses for the study

Quality of the Subjects and the degree program and student satisfaction

The quality of the degree program will depend on the subjects assigned for the four years degree and

the workshops and other practical events associated with that. The area covered by the subjects is really important to provide diversified knowledge and skills to students about a specific field (Browne, Kaldenberg, Browne, & Browne, 1988). Based on the literature, it is clearly identified that there is a significant positive impact of the academic program and subjects on student satisfaction. Hence:

Hypothesis 1: Quality of the Subjects and the degree program will have a positive impact on student satisfaction in Higher education in Sri Lankan Universities.

Quality of the academic staff and student satisfaction

The quality of the academic staff can be defined as the vast knowledge about the subject areas, teaching and presenting skills, interaction with the classroom, and capability of delivering the knowledge to the students. According to the previous studies, there is a direct relationship between the quality of the academic staff and student satisfaction (Yusoff, McLeay, & Woodruff-Burton, 2015). Hence to identify that factor on Sri Lankan university students' satisfaction level, it is also included in the research. Hence:

Hypothesis 2: Quality of the academic staff will have a positive impact on student satisfaction in Higher education in Sri Lankan Universities.

Quality of university administrative staff and student satisfaction

The main involvement with administrative staff in the university is to give reliable, responsiveness, support for the academic program. They should have multiple qualities that can be expected by students as reliability, responsiveness, caring, attitude, accuracy, fairness, respect, and cooperation with students. It has already been identified in the literature and considered for this study as well for Sri Lankan university students (Malik, Danish, & Usman, 2010). Hence:

Hypothesis 3: Quality of the administrative staff will have a positive impact on student satisfaction in Higher education in Sri Lankan Universities.

Quality of the university facilities and student satisfaction

The quality of the university facilities can be considered as classroom facilities, laboratory facilities, library facilities, internet and Wi-Fi facilities, social areas, student cafeterias, and hostel facilities. It has been concluded that in the literature above-mentioned factors have a direct impact on student satisfaction (Yusoff, McLeay, & Woodruff-Burton, 2015). Hence :

Hypothesis 4: Quality of the university facilities will have a positive impact on student satisfaction in Higher education in Sri Lankan Universities.

Quality of the university location, the host city and student satisfaction

Students' expectations from the university location and surroundings are mainly measured through the availability of accommodation, transport facilities, restaurants, and quality food availability, entertainment, part-time job availability and safety facilities around the university. Previous studies have proven that host city quality and natural beauty have a strong positive response to student satisfaction (Hanssen & Solvoll, 2015). Hence :

Hypothesis 5: Quality of the university location, the host city will have a positive impact on student satisfaction in Higher education in Sri Lankan Universities.

Industry-University relationship and student satisfaction

There should be some agreement or connection with the industries to get the training opportunities, field visits and finally job opportunities for university students. At the same time, different industries should visit the university regularly for guest talks, and motivational speeches for undergraduate students. Students should feel that the industries are aware of the degree program and the students' knowledge and researches going on. At the same time industries can handover the environmental, energy or product development issues within the industry to university as research projects and will have a win-win situation at the end. Hence :

Hypothesis 6: Industry-University relationship will have a positive impact on student satisfaction in

Higher education in Sri Lankan Universities.

Student - Staff connections and student satisfaction

The structure of the University is such that students and staff will often come into contact for a different reason and built a connection among them. If that relationship is strong enough to discuss students' problems, their educational issues, and other difficulties during the studies, that will reduce the stress of the students. If lecturers have fully understood students, then there will have good communication and reduce misunderstandings. Hence :

Hypothesis 7: Student - Staff connection will have a positive impact on student satisfaction in Higher education in Sri Lankan Universities.

Number of research projects and other workshops handling by the university and student satisfaction

Universities should handle research projects to perform something special and innovate new products by solving social issues. If there are enough ongoing research projects, students get chances to join and work with those projects. That will help to improve their research capabilities while having the opportunity to use their theoretical knowledge. That will reduce their stress with daily lectures and assignments. At the same time, research projects, publishing research articles will make the path for them to get an opportunity for higher studies as well. That will be a good chance to involve other students and work as a team. Therefore, they will build strong relationships among students and having fun-time and enjoy. Hence :

Hypothesis 8: Number of research projects and other workshops handling by the university will have a positive impact on student satisfaction in Higher education in Sri Lankan Universities.

Number of subjects and workload and student satisfaction

Every subject will have continuous assignments, course works, lab practical, report writing or midterms. If the number of subjects is too much, they will have a high workload to complete within the semester. In that case, they will miss entertaining time, sports and other gatherings during the studies. If they suffer financial difficulties this will be a serious issue and be interconnected and have a high impact on satisfaction level. Hence :

Hypothesis 9: Number of subjects and workload will have a positive impact on student satisfaction in Higher education in Sri Lankan Universities.

University image and student satisfaction

University image has a strong impact on student satisfaction as that is embedded in the undergraduate mind from the university entrance exam and selection criteria. According to the Sri Lankan university selection, there is a ranking system developed for the universities. High mark students (based on the Island rank and District ranks) will get the opportunity to enter into high ranking universities and they will get a chance to select any of the university for their subject areas according to their wish. However, all the universities have ranking itself and the government also ranks the universities based on the facilities, staff quality, and the world ranking. If all the universities have the same facilities and quality staff, that won't be an issue and will not lead to dissatisfaction. According to the literature, it has figured out that the university image has a strong impact on student satisfaction levels (Cassel & Eklo, 2001). Hence :

Hypothesis 10: University image will have a positive impact on student satisfaction in Higher education in Sri Lankan Universities.

Financial difficulties and student satisfaction

The financial difficulties of students will lead them to suffer and forcing them to do part-time jobs to earn money. In that case, they will not have enough time to study and complete the assignments, and allocate the time for projects, report writing and study for midterm exams. However, the worst-case will be attendance for the lectures. If it is compulsory to have 80% attendance on certain lectures, they will face problems in fulfilling that. Therefore, they will not be happy for studies and overcome their

financial difficulties. Either they will leave the degree and they will be repeating several subjects. Hence :

Hypothesis 11: Financial difficulties will have a positive impact on student satisfaction in Higher education in Sri Lankan Universities.

Conceptual design based on the hypothesis

Based on the eleven hypotheses quantitative survey has performed among the technology faculty students. Based on the literature review and the author itself defined the hypothesis as variables and continue the research. The framework of the satisfaction level is given in Figure 2.

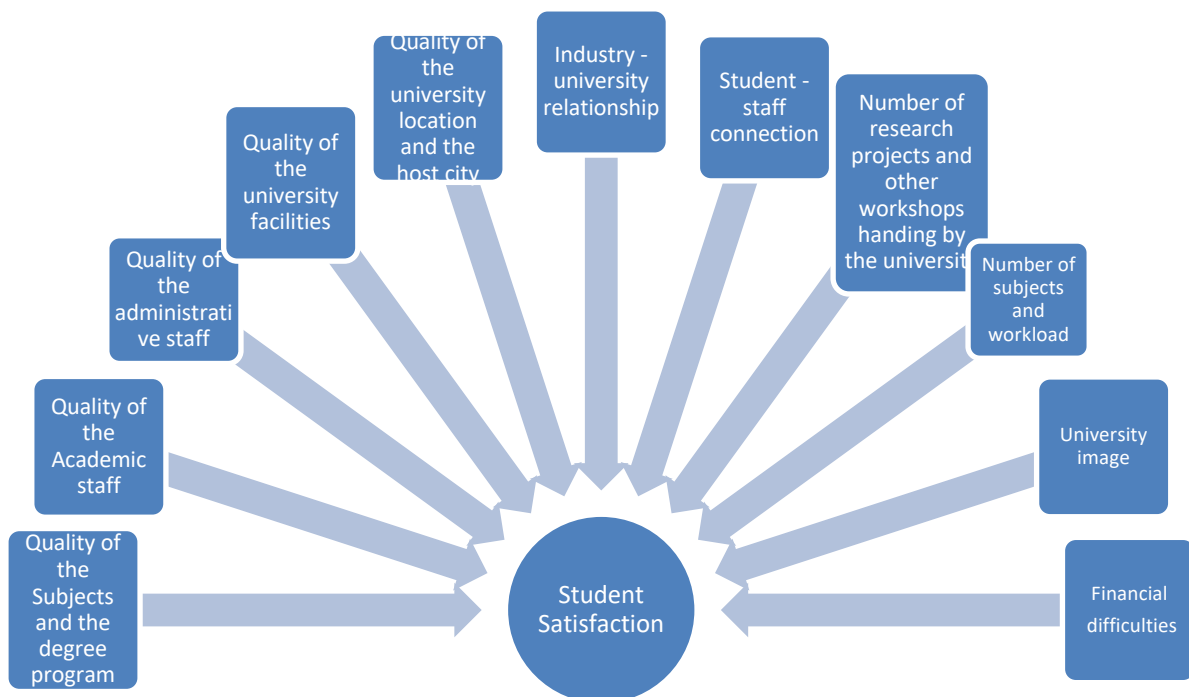


Figure 2: Student satisfaction model for higher education

According to the model, independent variables are Quality of the Subjects and the degree program, Quality of the Academic Staff, Quality of the administrative staff, Quality of the university facilities, Quality of the university location and the host city, Industry - university relationship, Student - staff connection, Number of research projects and other workshops handing by the university, Number of subjects and workload, University image, and Financial difficulties and the student satisfaction is the dependent variable for the research.

Data collection

There are around 950 Technology stream students in the University of Sri Jayewardenepura, Sri Lanka. According to the research done by Krejcie and Morgan (1970), the required sample size should be 274. Therefore, data collection is performed from the selected 400 students from the first year, second year and third-year students. That is more than the required number of samples (Krejcie & Morgan, 1970).

Current research only focused on undergraduate students from the Faculty of Technology, University of Sri Jayewardenepura. It can be assumed that they represent the entire higher education system in Sri Lanka. However, according to Figure 1, Technology and Engineering faculties are the only male dominating faculties in Sri Lanka. Therefore, among the female students, factors of satisfaction level may vary. It should be taken into consideration in future studies.

Data were collected in June-September 2019, with multiple questionnaires distributed during the lectures by the researcher. The questioner consists of 11 questions to identify the hypothesis impact on the student satisfaction level. The Likert scale for items ranged from 1 to 10, where 1 is "strongly disagree" and 10 is "strongly agree".

Data Analysis

The collected data analyzed based on the Likert scale. According to the scale, strongly disagree assigned 1 mark and the strongly agree assigned 10 marks to evaluate the total impact on the factors allocated for the questioner. As an example, let's assume students reply to factor 1. There are 159 students are marked Likert scale 1 as their preference, 132 students marked Likert scale 2 as their preference, 43 students are marked Likert scale 3 as their preference, 45 students are marked 4 as their preference in Likert scale and 5 students are marked 5 as their preference. Moreover, 4 students, 4 students, 3 students, 3 students and 2 students are marked 6, 7, 8, 9, and 10 as preference in the Likert scale respectively. Therefore, according to the assigned marks for the Likert scale 1 for 1, 10 for 10, it is calculated total marks scored for the first factor in the Likert scale. It is calculated as 880 as the total score for factor one. Then it is calculated the average of the factor one as 2.2 and multiply by 10 to get the % value as 22. Similarly, the value scored for the other factors also is calculated and developed the graph. Table 1 indicate the hypothesis used for the present study.

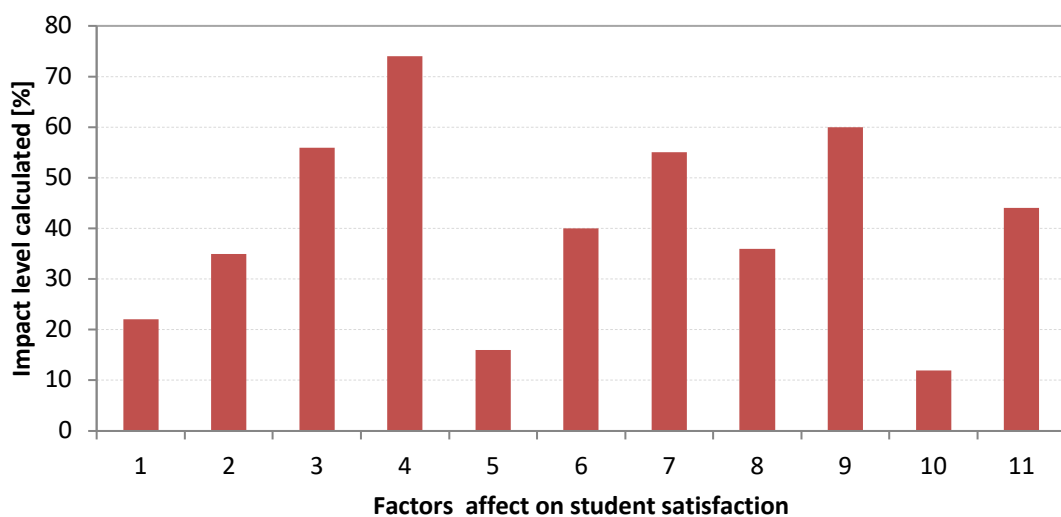


Table 1. Hypothesis used for the evaluation

Number	Hypothesis
1	Quality of the Subjects and the degree program and student satisfaction
2	Quality of the academic staff and student satisfaction
3	Quality of university administrative staff and student satisfaction
4	Quality of the university facilities and student satisfaction
5	Quality of the university location, the host city and student satisfaction
6	Industry-University relationship and student satisfaction
7	Student - Staff connections and student satisfaction
8	Number of research projects and other workshops handing by the university and student satisfaction
9	Number of subjects and workload and student satisfaction
10	University image and student satisfaction
11	Financial difficulties and student satisfaction

Conclusion

It can be seen that "Quality of the university facilities and student satisfaction" is a dominating factor for student satisfaction. Following that, "Number of subjects and workload and student satisfaction",

"Quality of university administrative staff and student satisfaction" and "Student - Staff connections and student satisfaction" have higher impacts on student satisfaction. Moreover, "University image and student satisfaction" has the least impact on student satisfaction. However, this research was conducted with the University of Sri Jayewardenepura, Technology faculty students. The highest-ranked students in the Technology stream are selecting to the University of Sri Jayewardenepura. Therefore, university image will not be an impact on student satisfaction in this research. However, research has to be conducted with all universities to identify the influence of the university image on student satisfaction levels.

Based on the study, it can be recommended that academic staff should improve their connection with the students. Other than teaching, they have to play a major role as an advisor, role model, facilitator, information provider, planner as well as a resource developer. It will be helpful for students to engage with more research projects and learning materials without any trouble. The non-academic staff also should reexamine their administrative role to improve student satisfaction. They should be always available for the students with kindness, helpful attitude, and more supportive information. Universities could also take required actions to improve the quality of the lecture rooms, laboratory facilities, internet facilities, library facilities, sports facilities as well as social areas for entertainment events. Universities must have enough hostel facilities, cafeteria to improve student satisfaction. At the same time, the quality of the cafeteria food must be checked to maintain the proper condition.

The prospectus of the academic program must analyze and evaluate based on industrial requirements, and expertise comments at least every 4 years. The degree program should have enough specified relevant subjects to maintain the international level. More and more industrial workshops and research projects should have arranged for undergraduate students. It should improve their moral to give the value of their degree program. This study mainly based on the Faculty of Technology, the University of Sri Jayewardenepura only. Therefore, this study has to be carried out with all other universities including all the faculties. Then the student satisfaction factors can be more accurately evaluate.

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