

Role Of Student's Satisfaction And Loyalty In Establishing Trust Based Quality Culture At Higher Education Institutions In Pakistan



Ainee Zafar (Corresponding Author)	Quality Enhancement Cell, Pir Mehr Ali Shah Arid Agriculture University Rawalpindi, Pakistan Ainee.Jamal15@yahoo.com
Riaz Ahmad	Quality Enhancement Cell, Pir Mehr Ali Shah Arid Agriculture University Rawalpindi, Pakistan riaz@uaar.edu.pk
Nazia Rafiq	Department of Anthropology, Pir Mehr Ali Shah Arid Agriculture University Rawalpindi, Pakistan naziarafiq@uuar.edu.pk
Arif Mahmood Khan	PhD Scholar, Department of Sociology, Pir Mehr Ali Shah Arid Agriculture University Rawalpindi, Pakistan arifkhan7000000@gmail.com

Abstract: *The role of higher education institutions (HEIs) is crucial for sustainable development of society as well as for a nation. Existence and success of HEIs in the present competitive and financially constraint environment depend upon assessing, evaluating and managing students' satisfaction and loyalty- a key factor towards the establishment of quality culture at the HEIs. In Pakistan, no study based on defined measurement models has been reported so far to assess satisfaction of key stakeholders i.e. students. Our study aimed at evaluating the key determinants of students' satisfaction and loyalty at Pir Mehr Ali Shah Arid Agriculture University Rawalpindi (Pakistan). The research model used in this study is European Performance Similarity Index (EPSI) after modification, wherein perceived expectations affect students' satisfaction and loyalty. Our research model contains some key consequence factors of student course evaluation questionnaire that has been introduced by the Higher Education Commission of Pakistan in Pakistan. Multiple regression modeling was used to analyze the structural equation model of the students' loyalty and satisfaction. Results revealed that all the research model variable relationships were significant and EPSI methodology is effective in assessing students' satisfaction to establish trust-based quality culture. Our study also highlighted the dire need for HEIs to move towards for more detailed analyses of students' satisfaction in order to render good services and satisfy emerging demands of students in effective manner.*

Keywords: European Performance Similarity Index (EPSI), expectations, perceptions, quality of service, perceived value, structural models, Multiple regression Modeling

Introduction

Higher Education Institutions being knowledge creators and knowledge disseminators play vital role in sustainable development of communities and in turn nations. This is accomplished by the universities through fostering progress, enhancing social capital, providing access to knowledge and adapting students to outside realities (Dzimińska et al., 2018). Lozano et al. (2013) emphasized that attainment of

sustainable development is actually “a daring challenge to higher education institutions (HEIs) and society in general (Ikram et al., 2023), in order to achieve a sensible future for those not yet born generations, especially if the rate of change in universities is taken into consideration”.

University can act as change driver and sustainability leader only by understanding the needs of present and future generations.

Satisfaction of student's need is prerequisite for sustainable development. In present competitive environment, with a wide range of universities offering education related services to students. Students being customers chose universities on the basis of their expectations of the value of services, degrees and level of satisfaction offered by the HEIs. Therefore, it is mandatory for the universities to fix right level of satisfaction for the students. A too low level of student's expectation will definitely fail to involve more students and a high level of expectations will yield just disappointment.

University student relationship depends solely on students' value and satisfaction and management of this relationship results in their satisfaction (Shahsavari & Sudzina, 2017). Consequently, satisfied students talk positively about their universities in society and hence stay loyal. So, loyalty is output of fulfillment of student's satisfaction. Østergaard & Kristensen (2006) defined loyalty as "willingness to recommend the institution and the programs to others, considerations whether the student would have chosen the same institution and programs today, and willingness to continue education or participate in conferences at the institution in future".

Educational environments are both dynamic and competitive and thus can be compared with private companies market where students' satisfaction is the only tool that helps in facing challenges and adapting to international standards and demands (Østergaard & Kristensen, 2006). Vázquez et al. (2015) studied students as clients and used structural equation modeling methodology to determine the overall perception of students regarding university social responsibility meant to achieve satisfaction and quality of service. Study showed that only internal management shaped the resulting overall perception of students. Similarly, a strong correlation existed between quality of service and satisfaction. Moreover, various studies have shown that students' satisfaction imparts significant impact on student retention ratio, fundraising, recruiting efforts and student motivation (Elliott & Shin, 2010).

The imperative goal of any university is to achieve quality that can be accomplished through proper investigation of weaknesses and strengths of service quality. This evaluation further helps HEIs in designing best service, better allocation of available resources and provision of improved services to all students and therefore leads to student satisfaction (Abdullah, 2006). Although, significant literature regarding customer satisfaction and loyalty is available however, only few studies have been conducted so far on student's loyalty and satisfaction at HEIs across the globe (Pandita & Kiran, 2023).

In Pakistan, HEIs are regulated by Higher Education Commission of Pakistan which is mainly financed by Federal Government. Pir Mehr Ali Shah Arid Agriculture University, Rawalpindi (PMAS-AAUR) Pakistan being innovation catalyst endeavors to build a high-quality education system which will not only offer equal opportunities to all students but also provides support to graduates and post graduates for their benefits at both individual and societal level and thus contribute towards prosperity of Pakistan at macro level.

In this paper, structural equation modeling is used to construct a detailed model of student loyalty and satisfaction. The main objective of this research is to check effectiveness of modified European Performance satisfaction Index model aimed to describe student's expectation, university image, perceived values, satisfaction, quality of hardware and software at PMAS-AAUR.

This paper will surely help universities in understanding students' perception and expectations about university. It might also help universities to explore ways that can help in achieving student's satisfaction and thus consequently leads to their loyalty (Tharapos et al., 2023).

THEORETICAL BACKGROUND

European customer satisfaction index model

Customer satisfaction indices (CSI) were used to measure customer satisfaction in 1990s. These were basically structural models that described

various factors such as perceived value, perceived quality image of a firm and expectations of customers, all antecedents to assess customer satisfaction (Johnson et al., 2001).

The Swedish customer satisfaction barometer was established in 1989. Being earliest model of CSI, it was frequently used for measuring cumulative satisfaction of services, consumed and domestically purchased products (Fornell, 1992). The other widely used structural based models include The American Customer Satisfaction Index (ACSI) (Fornell et al., 1996) and The Norwegian Customer Satisfaction Barometer (Andreassen & Lervik, 1999). These CSI were introduced in 1994 and 1996 respectively. The most recent CSI is European Customer satisfaction Index (Eklöf, 2000) and it is based on standardizing distinction between product quality and service quality.

Among four widely used CSI, ECSI is selected to fulfill aim of this research because ECSI measures loyalty in terms of likelihood of recommending company, retention rate and likelihood to increase in the number of purchases (Johnson et al., 2001). Therefore, it is proposed that it is also effective in measuring a likelihood to increase in students' numbers, recommending university to others and retention rate at PMAS-AAUR.

ECSI methodology was first used in 1999 to assess students' oriented quality in higher education (Martensen et al., 2000). ECSI methodology was also applied at Aarhus school of Business in Denmark in 2005 to measure key role of students' 'loyalty and satisfaction at various levels of higher education (Østergaard & Kristensen, 2006). In 2006, a research study aimed at estimating institutional image of various Australian universities was conducted by using modified ECSI methodology (Brown & Mazzarol, 2009). Determining effects of employability by conducting survey on tourism graduates in Portugal is another important example of developing and applying ECSI model. ECSI was later on renamed to EPSI, European performance satisfaction index. Our research model is truly based on previous translations of EPSI model. However, this

modified model includes an additional path between image and expectation and indirectly indicates the dependence of loyalty on satisfaction via image and expectation in establishing trust based quality culture at HEI.

University image refers to a perceptual phenomenon which results from logical and emotional understandings that have both affective, the feelings and cognitive components (Dobni & Zinkhan, 1990). Beerli et al. (2002) verified in his empirical work that both cognitive and affective components affect each other in the development of university's image. Although, Student satisfaction is influenced by defined dimensions of cognitive factor of image but affective part is the real player in contributing towards students' satisfaction (Raza et al., 2023).

Students usually have some expectations about university/courses offered by the university prior to starting studies at HEIs. These later on serve as bench mark and helps in establishment of positive disconfirmation (i.e. expectations are lowered than perceived reality) leading to satisfaction and negative disconfirmation (i.e. expectations are greater than perceived reality) leading to dissatisfaction on part of the students (Appleton-Knapp & Krentler, 2006).

Perceived service quality results when students compare university service expectations against perceived actual performance of HEI (O'Neill & Palmer, 2004). Thus it refers to the "the difference between what a student expects to receive and his/her perceptions of actual delivery". It is infact an antecedent to university's student satisfaction (Guolla, 1999).

Martensen et al. (2000) identified that perceived service quality has two attributes identified as human ware quality also known as software quality of service and quality of hardware. Quality of software at HEIs refers to human elements in the form of academic standard, teaching and personal interaction with both faculty and administration. Quality of hardware comprises of non-human elements at university such as study courses and programs and structural facilities having supportive function (library, computer facilities, student office and

classrooms) (Wong & Chapman, 2023).

From university students' perspective, another important antecedent to students' satisfaction is perceived value that may be defined as preferential judgment made by students based upon drawing comparison between what is gained from the university against investments made by the students (Zeithaml, 1988). It involves estimation of benefits gained by students from university by spending their personal resources during study period at varsity.

DATA AND METHODOLOGY

In the present study, questionnaire was used to collect data based on probability sampling method from postgraduate research students (both M. Phil and PhD) of various Faculties/Institutes of PMAS-AAUR. The questionnaire was developed on the basis of factors (drivers) of student loyalty and satisfaction at post graduate level and comprised of survey questions taken from HEC evaluation questionnaire and questionnaire which was used by Shahsavar & Sudzina (2017) to estimate students' satisfaction and loyalty in HEIs of Denmark.

Each questionnaire contained six demographic questions. A 5-point Likert scale was used for remaining survey questions. In the research questionnaire, scaling format used in Shahsavar and Sudzina's study was applied to survey questions. Remaining survey questions dealt with student's image, expectations, quality of service in terms of software /human ware and hardware, perceived value, students' satisfaction and loyalty. Variables, such as university overall reputation as knowledge creator, trustworthiness and reliability, contribution in social and commercial conditions and international openness, have been used to measure students' image about PMAS-AAUR. In order to measure students' expectations, survey questions such as those relating to lecturer's teaching ability and contribution, service of administrative staff, program structure, practical facilities and learning environment have been constructed (Guolla, 1999).

Quality of service in terms of both hardware and

software have been calculated from survey questions divided into two different parts; 1) questions used in estimation of quality of human ware encompass on quality of service provided by university administrative staff, overall quality of teaching ability of lecturers, and 2) questions having indicators that are used to measure quality of hardware in terms of quality of programs 'structure, range of offered courses, available facilities and structural framework.

Survey questions such as what students gained from university considering utilization of their personal resources, time spent by students on studies at PMAS-AAUR and future prospects after passing out from the university provided means to evaluate perceived value. Since, satisfaction in HEIs is achieved after meeting perceived performance and students' expectations, therefore, it has been measured based on questions encompassing experiences of students while studying at PMAS-AAUR and extent of fulfillment of expectations regarding study programs (Zhang et al., 2008).

Only satisfied students after completion of their studies in the respective program make effective use of offers for both further and supplementary programs and recommend study programs of university to others. These parameters were used to study students' loyalty (Ali et al., 2021).

For the collection of data, 200 questionnaires were distributed among research students as hard copies in various faculties/institutes. Data was then screened, and final data was extracted from 140 completely attempted questionnaires. About 25 questionnaires remained unattempted by the students. On the other hand, 35 questionnaires were partially attempted by the respondents and therefore excluded from research study. Overall, collected answers correlated to meet criteria for using as good quality latent variables.

Table1 shows frequency distribution of students/respondents by age, gender, educational status and residency period at university.

Variables	Frequency (%)
Gender	
Male	75(53.6%)
Female	65 (46.4%)
Age	
Less than 22	10(7.1%)
22-29	119(85.0%)
over 29	11(7.9%)
Education Status	
M.Phil/MS(Hons)	116(82.9%)
PHD	24(17.1%)
Residency Period	
Full-time	136(97.1%)
Part-time	4(2.9%)

Table. 1 Demographic information about the respondents of PMAS-AAUR

EPSI model and statistical estimation procedure (Multiple regression analysis) were used to calculate various indexes that allowed measurement of student's perception of both exogenous latent variables including expectations, institution image and quality of hardware and software elements and

endogenous variables including student satisfaction, perceived value and loyalty.

The modified version of the EPSI structural model proposed by Shahsavar & Sudzina (2017) indicating students' satisfaction and loyalty is illustrated below in Fig1. This structural model is then tested by multiple regression model using SPSS 16.0 version.

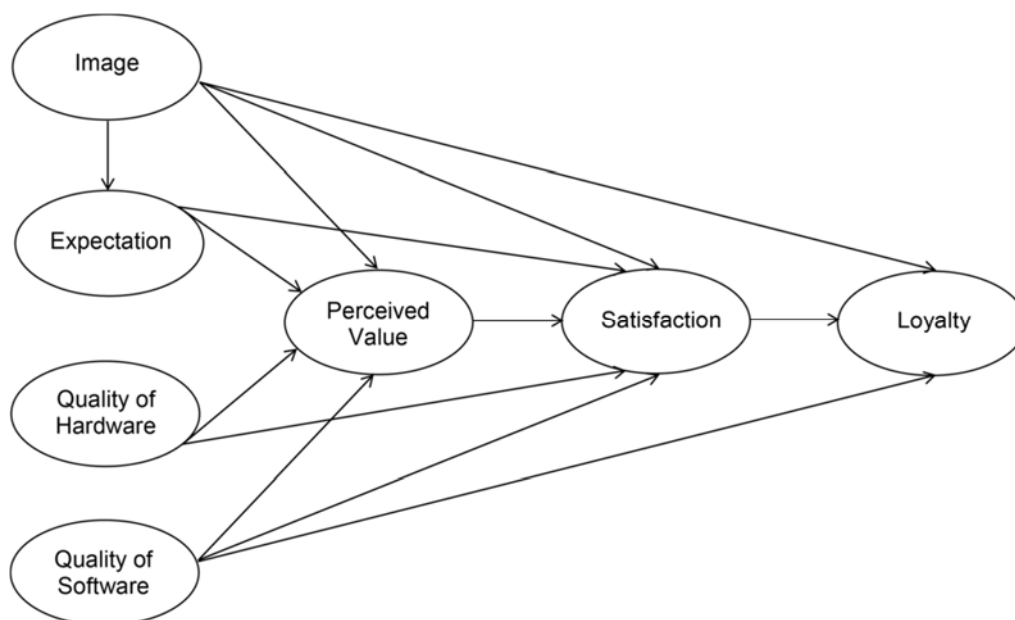
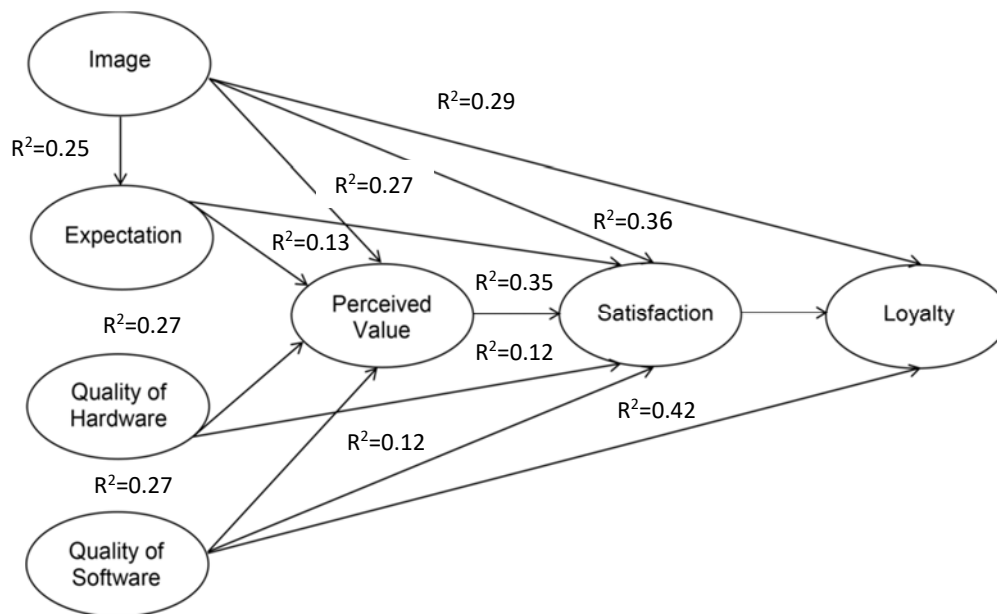


Fig 1. The research model.

RESULTS

The multiple regression model is illustrated in

Fig 2. It contains R^2 value which shows that latent variables have significant impact on the dependent variables.



Note: $P < 0.05$

Fig 2. Significance of R^2 of the model

Fig 2. shows that there is relationship ($R^2=0.215$) between image measured in the form of variables, such as university overall reputation, as knowledge creator, trustworthiness and reliability, contribution in social and commercial conditions, international openness, and students' expectations such as those relating to lecturer's teaching ability and contribution, service of administrative staff, program structure, practical facilities and learning environment. Since P values for both exogenous latent variables and endogenous variables are near to zero, it indicates that all variables relate with each other, and independent variables have impact on dependent variables. The correlation between expectations and perceived value is relatively weaker ($R^2=0.136$) than between image and expectation. Exogenous latent variables such as quality of hardware and quality of software have medium impact (i.e. over 0.27) effect on perceived value. Moreover, Image not only effect expectations but also directly impact perceived value (i.e. over 0.27), student's satisfaction (i.e. 0.36) and loyalty (i.e. 0.29). The direct effect of expectation on perceived value is

weak (i.e. over 0.13). Quality of hardware elements has medium effect (i.e. over (i.e. 0.278) on student satisfaction. However, quality of hardware strongly influences (0.348) student loyalty. On the other hand, quality of software impacts weakly to moderately on perceived value (0.127) and students' satisfaction (0.27) respectively. The strongest relationship exists between quality of software and students loyalty (0.426) which shows even after passing out students are extremely concerned about services rendered by university administrative staff, teaching ability of lecturers, nature of educational environment and teachers' contribution in the class. Similarly, quality of hardware such as quality of educational programs 'their structure, range of offered courses, available facilities and structural framework all have strong impact on loyalty (0.362). Most importantly, all endogenous variables such student satisfaction, loyalty and perceived value have strong effect on one another. It indicates that satisfied students tend to be loyal for the university and thus add to an increment in university resources by convincing others to study at their university. Effect sizes of the research model values (R^2) are provided in the table 2.

Table2. Effect sizes of the research model values (R²)

	Perceived value	Satisfaction	Loyalty
Image	0.271	0.386	0.290
Expectation	0.136	0.358	0.448
Hardware Quality	0.278	0.127	0.362
Software Quality	0.271	0.127	0.426

DISCUSSION

One of the important consequences of students' dissatisfaction is drop out of the study programs at HEIs which affects stakeholders including investors of higher education such as HEC and Ministry of education and consumers in the form of students. This resultantly exerts negative effect at both individual level and at societal level.

In the present study, driver effects of various latent variables on student loyalty and satisfaction were estimated using EPSI methodology at PMAS-AAUR. Present research results provide detailed perspective on students by encompassing more satisfaction survey questions as compared to previous studies conducted to estimate drivers of loyalty and satisfaction at University of Edinburg and Denmark (Østergaard & Kristensen, 2006; Shahsavar & Sudzina, 2017). The study concluded that university image influences students' expectations.

Our results are in conformity with findings of previous conducted studies regarding student satisfaction. In a study conducted at British university based in the United Arab Emirates, a strong link was found between satisfaction for non-academic services and relevant program satisfaction. Moreover, just like results of present study, facilities (hardware quality) were found to have a determining effect on student's loyalty (Fernandes et al., 2013).

Elliott & Shin (2010) indicated that provision of quality education by the academic staff along with "feeling of belonging" is main drivers of

students' satisfaction. Moreover, he also emphasized on the importance of interaction of students with unbiased academic faculty for them to expand and experience intellectual growth. Our model also shows a positive relationship between software/human ware quality and students satisfaction. Student retention rate and loyalty are largely influenced by human ware quality in our research model.

Another important construct in our model proved to be student's perceived value which is directly impacting students' satisfaction and have indirect effect on students' loyalty. Our results are in accordance with study conducted in Denmark universities wherein perceived value was demonstrated as most important factor in satisfaction of students with their experiences in Danish universities (Shahsavar & Sudzina, 2017).

Our present study also demonstrates that among various construct defined as antecedents of satisfaction, strong correlation exists between endogenous latent variables such as perceived value, students' loyalty and satisfaction at PMAS-AAUR. Consequently, results of proposed research model can provide valuable insights for managers of PMAS-AAUR. There needs to be increased involvement of students in policy formulation that leads to higher quality teaching and resultantly development of effective processes at postgraduate level of the university (Mark, 2013; Scott, 1999).

Eventually, results of present study may also help managers of PMAS-AAUR to improve and maintain students' experiences during study

period at university. As a result student's loyalty towards institution will also tend to increase.

CONCLUSION

Our research confirms that university's image, expectations, perceived quality of hardware and software and perceived value, all have positive direct and indirect effects on students' satisfaction and loyalty. It also confirms strong correlation between students' satisfaction and loyalty. The conceptual basis of proposed model considers that just like other service provider private organizations, Pakistani universities being service providers of higher education need to implement a consumer oriented strategy to effectively deliver their educational service and consequently satisfy the needs and wants of their students.

This model also validates application of EPSI-Structural Equation Model in the context of Pakistani Universities and emphasizes the dire need to implement detailed unconventional analyses in the student enrollment process. Moreover, it is the responsibility of university managers and educational researchers to allocate sufficient software and hardware resources to improve PMAS-AAUR's position in the present competitive environment of higher education so that more students and funds can be attracted.

Since, in Pakistan all universities work under the umbrella of HEC and thus share strategic similarities, it is therefore assumed that this model needs to be applicable in other universities to satisfy demands of students that will help in making them loyal.

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