Research Article

The Mediating Role of Perceived Value on the Relationship between Quality Assurance and Student Satisfaction in Nursing Education

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ABSTRACT

Objective: This study aimed to examine the connections between quality assurance, perceived value, and nursing student satisfaction. **Methods**: A survey was conducted with 200 nursing students in Indonesia. Data on quality assurance, perceived value, and satisfaction was gathered. Partial least squares structural equation modeling (PLS-SEM) was used to assess the measurement and structural models. **Results**: PLS-SEM showed a significant positive link between quality assurance and perceived value (β=0.239, p=0.002), and between perceived value and satisfaction (β=0.510, p<0.001). However, no direct relationship was found between quality assurance and satisfaction (β=0.042, p=0.571) in the structural model. Perceived value exhibited a mediating role. **Conclusion**: Enhancing quality assurance in nursing schools is essential for improving students' perceived value, subsequently leading to higher satisfaction levels. However, it's crucial to note that quality alone doesn't directly impact satisfaction. Nursing schools should prioritize both quality assurance and increasing perceived value to maximize student satisfaction.

Key words: Nursing education, Quality assurance, Perceived value, Student satisfaction.

INTRODUCTION

In the ever-evolving landscape of healthcare, the role of nursing education stands as the cornerstone in shaping compassionate and competent healthcare professionals.[1-3] As the demand for skilled nurses continues to surge, nursing education institutions are faced with the pivotal task of not only delivering knowledge but also fostering an environment that ignites the spark of passion and dedication within their students. In this pursuit of academic excellence, a powerful trifecta emerges - the interplay between quality assurance, perceived value, and student satisfaction.[4-6] These elements intricately weave together to create a tapestry of educational brilliance, molding future nurses who will go on to transform countless lives.[3,7-12]

Quality assurance in the realm of nursing education transcends the boundaries of mere pedagogy.[3,7] It encompasses an array of dimensions that collectively orchestrate a symphony of learning experiences. Nursing education institutions must invest in a faculty of experts whose competence not only imparts knowledge but also kindles inspiration.[7,10,13] The deployment of innovative teaching methodologies and cutting-edge technology fosters a dynamic learning environment that engages students in their educational journey. Moreover, the provision of comprehensive support services ensures that students are equipped with the tools they need to succeed, from academic resources to personal guidance.[2,7,8,10,13,14]

Every nursing student embarks on their educational voyage with a vision of the future they wish to craft. Perceived value, within the context of nursing education, serves as a guiding light, validating their investment of time, effort, and resources. It is a delicate equilibrium between their expectations and the tangible rewards reaped from their educational commitment.[7,15,16] A robust nursing education program not only imparts knowledge but also instills a sense of purpose, channeling their aspirations toward becoming proficient and empathetic healthcare providers. The perceived value acts as a driving force, propelling students to excel and fortifying their determination to overcome challenges.[15,17]

At the heart of any successful educational endeavor lies student satisfaction - a reflection of the holistic experience within the corridors of learning. Student satisfaction transcends the confines of a classroom; it encompasses the amalgamation of comprehensive learning, academic support, and a nurturing environment.[4,5,18] Thriving in an atmosphere where their voices are heard and their needs are met, nursing students are empowered to flourish.[4,18-20] This satisfaction catalyzes academic achievements, forging a bond between education and passion, and cultivating compassionate and skilled healthcare professionals.[4,6,21-24]

As the healthcare landscape continues to evolve, the need for well-prepared and dedicated nursing professionals has never been greater. The trinity of quality assurance, perceived value, and student satisfaction forms the bedrock upon which nursing education institutions must build their foundation.[4,6,21,23,25-27] The intricate dynamics between quality assurance, perceived value dan student satisfaction, unveiling the factors that influence them and exploring how their harmonious interplay shapes the future of nursing education.[3,7,9,28] Through a comprehensive understanding of this triad, nursing institutions can unlock the gateway to academic excellence and produce a generation of nurses poised to make an indelible mark on the healthcare sector.

This article presents a research study that aims to explore the relationship between quality assurance, perceived value and student satisfaction in nursing education, examining the contributing factors that impact these constructs.

Literature review and hypothesis

The study suggests a conceptual model with three constructs: perceived value, quality assurance, and customer satisfaction.

Quality assurance: Since it helps a business increase earnings, as well as satisfy and keep consumers, quality assurance has gained widespread recognition as a crucial problem in many industries.[1,29,30] A company can develop a distinct competitive advantage to set itself apart from rival organizations by offering great quality assurance. Research on the evaluation and enhancement of quality assurance is now crucial. Although the significance of quality assurance is widely acknowledged, academics have yet to reach a consensus on the tools, dimensions, and methodologies that should be used to quantify it. The difference between what clients anticipate from the service they receive and what they actually receive is referred to as the quality assurance.[3,31,32] Although SERVQUAL is widely recognized as a tool for assessing the quality of services, some scholars contend that SERVQUAL has certain drawbacks.

Quality Assurance (QA) plays an integral role in ensuring the quality of services delivered by an organization. In this context, the SERVQUAL model is often employed as a tool to measure service quality based on five key dimensions: tangibles, reliability, responsiveness, assurance, and empathy. While the SERVQUAL model offers valuable insights, it has its limitations that need to be acknowledged.[33] One significant limitation lies in its focus on customer perceptions. The model heavily relies on subjective evaluations by customers regarding service quality, often without encompassing internal company factors or internal processes that could impact service quality. Therefore, organizations should be aware of these limitations and consider the use of additional methods or adaptations to the SERVQUAL model to provide a more comprehensive overview of the service quality they offer.[33-35]

Thus, the hypothesis is:

H1: There is a direct significant positive relationship between quality assurance and perceived value.

H2: There is a direct significant positive relationship between service quality and customer satisfaction.

Student satisfaction

Student satisfaction holds a paramount significance within the domain of educational marketing management. It pertains to the degree of contentment and fulfillment experienced by students throughout their educational endeavors. This concept assumes a pivotal role due to its direct implications on the success and standing of educational institutions.[36,37]

In instances where students exhibit a high level of satisfaction with their educational experiences, they are more prone to excel academically, participate actively in the learning process, and successfully complete their respective courses or programs. Additionally, contented students often evolve into fervent advocates for their institutions, disseminating positive feedback and commendations to prospective students and their parents.[23,26]

Within the competitive milieu of the education sector, where institutions vie for student enrollments, student satisfaction emerges as a potent marketing instrument. Satisfied students serve as conduits for bolstering an institution's brand image and reputation, thereby attracting a greater influx of students and accompanying resources.

Conversely, dissatisfied students have the potential to tarnish an institution's image, leading to diminished enrollments and financial support.[16,17]

In summary, student satisfaction assumes a pivotal role in the realm of educational marketing management, exerting a direct impact on an institution's trajectory of success, its standing in the academic community, and its ability to attract and retain students. Consequently, educational institutions must accord priority to the ongoing assessment and enhancement of the determinants that contribute to student satisfaction.[16,17,38]

Perceived value

Previous research has found that consumer perception of value is driven by service quality.[39,40] Customers will have a high perceived value of service if they spend less money, time, and energy relative to the service quality they obtain. In other words, clients perceive a higher value in a service when it is of higher quality.[17,41] Customers' perceptions of value are thought to influence their contentment. A consumer will be highly satisfied if they get high-quality service. Also, recognised as a mediating and moderating component between service quality and customer satisfaction is perceived value.[35,42-44]

Thus, the following theories are put forth:

H3: Perceived value and customer satisfaction have a direct, significant, and positive relationship.

H4: The impacts of service quality on customer satisfaction are mediated through perceived value.

METHOD

Research design

This research study adopts a survey-based research design to investigate the relationship between quality assurance, student satisfaction and perceived value in nursing education. The survey will gather quantitative data, providing insights into various aspects of nursing education that influence three variables.

Sampling

Target Population: The target population for this survey will be nursing students enrolled in various nursing programs, including both undergraduate and graduate levels in Health Polytechnic of Banjarmasin.

Sample Selection: We have 200 students taken with stratified random sampling technique. The sample will be divided into strata based on educational levels (undergraduate and graduate), and then participants will be randomly selected from each stratum.

Data collection

For this research study, data collected through a structured survey administered to nursing students. The questionnaire used employs a 5-point Likert scale, where respondents rate their agreement or disagreement with statements using a scale from 1 (strongly disagree) to 5 (strongly agree). The questionnaire consists of three main sections: quality assurance, perceived value and satisfaction.

Assessment of quality assurance is based on the quality of inputs consisting of the quality of nursing education organization services, the quality of student services, the quality of lecturer services, the quality of educational staff, the quality of facilities and infrastructure, and the quality of the budget, environment. The quality of the Process in nursing education is assessed from the quality of learning, the quality of supervision and guidance support, the quality of evaluation, the

quality of extra-curricular and the quality of community service. While the quality of Output is assessed from the quality of graduates.

Assessment of the perceived value as a nursing student involves evaluating the relationship between the quality of educational offerings and their associated costs, considering the significance of quality versus price, and recognizing the benefits of opportunities like scholarships and financial aid. By conducting self-assessments, analyzing program reviews, and staying informed about available financial resources, nursing students can make informed decisions to maximize the value of their educational experience and achieve their career goals in the healthcare field.

Assessment of nursing student satisfaction is assessed from satisfaction with lecturers, satisfaction with learning facilities and infrastructure, satisfaction with the learning process and satisfaction with academic staff services.

Informed consent

Before participating in the survey, all potential respondents will receive a clear explanation of the research objectives, data collection procedures, and their rights as participants. Informed consent will be obtained from each participant, ensuring that they are aware of their voluntary participation and their right to withdraw from the study at any time without consequences. This research has ethical approval from Ethical Board Health of Polytechnic Banjarmasin.

Data analysis

Partial least squares partial least square (PLS-SEM) was utilized to analyze the data, as it is an appropriate method for testing theories in human behavior research.[45] In PLS-SEM, the measurement model is assessed before the structural model.[45] Principal component analysis (PCA) was first conducted to ensure validity, reliability, and unidimensionality of the measurement models prior to evaluating the structural model. PCA examined indicator loadings, internal consistency reliability, and discriminant validity of all latent constructs.[46] Once adequate measurement models were established through PCA, the structural model was evaluated by examining path coefficients and their significance levels.

RESULT AND DISCUSSION

Evaluation of the measurement model (Outer Model)

The measurement model or outer model is carried out in 2 (two) stages. The initial stage is to analyze item reliability (validity of each indicator) as seen from the loading factor value (standardized loading). This loading factor value is the magnitude of the correlation between each indicator and its construct. An indicator is said to have good validity if the loading factor value is > 0.5. The next stage is to look at the Cronbach's Alpha value and the Composite Reliability (D.G. Rho) value which if the Crobach's Alpha value and the Composite Reliability value> 0.7 then the construct has high reliability / reliability. The results of validity and reliability test is displayed in Table 1.

### Evaluation of Measurement Model (Inner Model)

The final stage of analyzing a model is to conduct a model test analysis to obtain research answers by looking at the Path Coefficients value to see the strength of the relationship and see the P Value (Pr value > |t|) to see the significance value of the relationship between constructs. If the P Value (Pr value > |t|) is less than 0.05, there is a significant relationship between the constructs/variables and vice versa if it is more than 0.05, there is no significant relationship between the constructs/variables. Table 2 shows the results of hypothesis testing by using PLS-SEM XLSTAT.

Table 1: The result of validity and reliability tests.

Latent variable		Cronbach's alpha	D.G. rho (PCA)
Quality assurance			
QA.1	0,663		
QA.2	0,829	0.568	0.778
QA.3	0,683		
Perceived Value			
PV.1	0,917		
PV.2	0,923	0.917	0.948
PV.3	0,939		
Satisfaction			
SS.1	0,923		
SS.2	0,902	0.931	0.952
SS.3	0,910		
SS.4	0,910		

Table 2: The result of hypothesis testing.

Hypothesized Paths			P Value	Path Coefficients	Keterangan
H1:QA	PV		0.002	0.239	significant
H2: PV	SS		<0.001	0.510	significant
H3:QA	SS		0.571	0.042	not significant
H4:QA	PV	SS	Partially mediate		significant

Figure 1: The conceptual research model
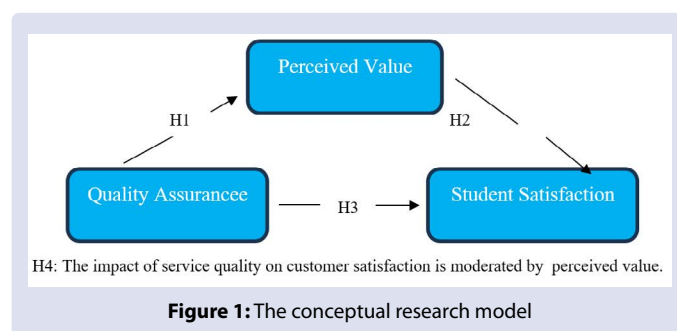
The research findings support the first hypothesis, indicating a strong and positive link between quality assurance and perceived value. This suggests that when students perceive a higher quality of service, they also perceive greater value from the academic institution. This perception of quality encompasses the benefits and costs associated with the service they receive. When students experience good quality assurance, it enhances their perception of the benefits they gain from the academic organization.[2,7,31,47]

The second hypothesis is also supported, as the study reveals a significant and positive correlation between perceived value and student satisfaction. This implies that nursing students at Health Polytechnic Banjarmasin, who perceive higher service value, tend to exhibit higher levels of satisfaction.[15,16,48,49] This finding is in line that perceived value plays a crucial role in determining satisfaction.[7,15,49,50] Students evaluate their satisfaction based on the perceived value they derive from the services they receive. The students often exchange the value they perceive for other motivational factors such as loyalty, which, in this case, translates to student satisfaction.[4,23-25]

While the lowest path coefficient value is on the effect of quality assurance of nursing higher education on student satisfaction, which is 0.042 and with a P Value of 0.571, which means that there is no significant effect of quality assurance of nursing higher education on student satisfaction. Student Satisfaction according is part of a psychological summary or subjective assessment conclusion based on customer experience and compared to expectations. This statement shows that satisfaction assessment is 'subjective', not objective so that more affective factors play a role when evaluating an object.[51]

In reality in the field, it often happens that the quality assurance factor does not affect customer satisfaction. and the effect of quality assurance can be very weak on customer satisfaction and states that its influence or significance must be observed more precisely because there are differences in the assessment of the effect of quality assurance on customer satisfaction in different agencies / providers specifically.[51]

Quality Assurance does not have a significant path coefficient with customer satisfaction because the effect of Quality Assurance on Customer Satisfaction is marginal and in a negative direction.[52] The relationship between quality assurance and customer satisfaction is very weak and insignificant and indicates that it has no direct effect on customer satisfaction. It can be assumed that the effect of quality assurance does not directly affect customer satisfaction; but affects indirectly through the perceived value variable path.[53] Quality improvements often only weakly correlate with improved satisfaction and saw only a minor impact on satisfaction from objective quality improvements. Prior customer perceptions were more influential.[54]

The analysis exploring the mediating role of perceived value in the connection between quality assurance and customer satisfaction reveals that perceived value acts as a partial mediator. Even when perceived value is introduced into the model, the impact of quality assurance on customer satisfaction remains significant. This finding supports Hypothesis 4, suggesting that while perceived value does play a role in mediating the relationship, quality assurance still exerts a direct and substantial influence on customer satisfaction.

The partial mediating effect of perceived value on the relationship between quality assurance and student satisfaction means when a student perceived a superior service e quality, and it is the only construct uses to consider the students; degree of satisfaction, then quality assurance will affect student loyalty up to the certain level. However, when students also consider perceived value as the antecedent of student satisfaction, then the evaluation of students' perceived value will diminish the effect of quality assurance on student satisfaction. In addition, when a student perceived a high value of service of a particular brand, the student will be more likely to be satisfied.

CONCLUSION AND DIRECTION FOR FUTURE STUDY

To improve student satisfaction with academic services, academic education professionals should prioritize the delivery of exceptional quality assurance and ensure a high perceived value of their offerings. The study's empirical findings demonstrate a direct and significant impact of quality assurance and perceived value on student satisfaction. Furthermore, the study reveals that perceived value operates as an intermediary factor between quality assurance and student satisfaction. This suggests that the extent of student satisfaction is influenced not solely by quality assurance but also by the balance between what students invest (time, money, and effort) and what they receive in return.

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