The Effect of Hedperf (High Education Performance) on Cognitive Outcomes Through Quality of Student Experience in Higher Education Institutions Accredited (Aipt) a in East Java

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Abstract

This study was conducted to determine the effect of service quality on the quality of student experience and its impact on cognitive outcomes at universities that have Aipt A in East Java based on the HEdPERF higher education service quality model. The research method used is quantitative research. The results of hypothesis testing prove that Hedperf (high education performance) has a significant effect on the quality of student experience. Quality of student experience has a significant effect on cognitive outcomes, and Hedperf (high education performance) has a significant effect on cognitive outcomes through the quality of student experience in higher education institutions. Aipt A in East Java.

Keywords: Hedperf (High Education Performance; Quality of Student Experience; Cognitive Outcomes.

1. Introduction

In today's competitive academic environment where students have many options available, the factors that enable educational institutions to attract and retain students must be taken seriously.
Higher education institutions looking to gain a competitive advantage in the future may need to start looking for effective and creative ways to attract, retain and foster stronger relationships with students. As a private higher education organization, it relies on interactions and market mechanisms. As a result, the competition to woo as many students as possible or so-called “potential customers” can become more intense. In addition, it is important to properly assess the quality of management education services provided to students from various institutions for proper decision making. One common marketing strategy that has been adopted by higher education is the notion of service quality. Research conducted by [1,2,3]; Woodall and his colleagues [4] strongly suggest that a marketing approach based on service quality can deliver strong results for higher education institutions. The notion of service quality in higher education institutions has its basis in the study of service science and service systems, by understanding that value is a co-creation between providers and recipients for the benefit of recipients, which in the context of higher education refers to students [5]. As higher education institutions are viewed the more important it is for institutions to measure and improve their service performance — namely the quality of their services — to maintain such a sustainable business model by attracting and retaining students [6, 2]. The need for higher education institutions to measure and improve service quality can be attributed to the increasing demands of students and as a result of globalization in the pursuit of quality assurance in higher education. This relates to the need to emphasize student involvement in learning, the quality of student learning and the outcomes of their higher education experience [7]. Discussions about the concept of service quality in higher education emerged in the mid-1980s in the service marketing literature [1], the quality assurance literature [8,9,10], and the management literature, higher education [11,4]. From the mid-1980s, several researchers Min and his colleagues [12]; Sumaedi and his colleagues [13]; Yeo & Li, [10] used the measurements made by Parasumaran and his colleagues [14,15] as the basis for studies on service quality in higher education. However, most of the research on service quality has focused on the issue of service delivery. While research on service quality on professional services, especially in higher education, is still scant [2]. The literature on service quality in higher education argues that service quality serves as a competitive advantage for higher education institutions to attract and retain students [16,17,18,19,9,10]. Higher education institutions aggressively promote their offerings and brands through service quality [2]. Many higher education institutions adopt models both locally and nationally to measure student satisfaction as a measure of service quality [20]. The Singapore Customer Satisfaction Index (Institute of Service Excellence, 2015) is an example of the reality of measuring service quality in higher education institutions by conducting student satisfaction surveys. Other existing customer satisfaction models are the European Customer Satisfaction Index (ECSI), the American Customer Satisfaction Index (ACSI) and the Swiss Customer Satisfaction Index (SWICS). The customer satisfaction model provides information about student satisfaction that higher education institutions need to know to improve service quality to students [21,20]. Although a number of studies in service quality have enriched the domain of service marketing [2], the conceptualization of service quality in higher education institutions is more from a purely marketing perspective. While higher education institutions are in their quest to attract and retain students in order to continuously demonstrate the quality of their educational services and to provide outstanding service [22], the fundamental focus of their services is on providing students with a quality learning experience [10]. Also in a broad sense to maintain market competitiveness. Furthermore, with the increase in industrial trade, the number of industries producing goods increased very rapidly and the word “QUALITY” became a matter of concern for industrial organizations. This
is to keep the company competitive in the national and global trade market. Therefore, the service industry is increasingly playing an important role around the world. As a result of globalization and technological advances, today, competition has peaked. In this environment, only the surviving industries offer the best service to their customers. In order to maintain their share in the world market in terms of quality and reliability of their products they must maintain the quality of their goods and services. The term "quality" has taken the form of the quality revolution that every company today strives to achieve. So, it is very important for an organization to have knowledge of customer behavior and satisfaction in order to provide quality services to its customers. Therefore, the service industry continues to grow significantly as a whole such as education, banking, hospitals, hotels, and transportation. Thus, service quality has become a major part of all strategic plans of advanced organizations. This research is focused on higher education institutions in particular to measure service quality in higher education management. Private higher education institutions need to know what to do to satisfy their students. Satisfied students will recommend their friends and relatives to join in the future. Service quality is one of the factors that can lead to customer satisfaction. Service quality can be used as a strategy for competitive advantage. The purpose of this study was to examine the effect of HEdPERF (high education performance) on cognitive outcomes through the quality of student experience in higher education institutions in East Java.

1.1. Formulation of The Problem

Based on the background that has been described, the following problems can be formulated:

- Does HEdPERF (high education performance) have a significant effect on the quality of student experience at AIPT A higher education institutions in East Java?
- Does the quality of student experience have a significant effect on cognitive outcomes at AIPT A higher education institutions in East Java?
- Does HEdPERF (high education performance) have a significant effect on cognitive outcomes through quality of student experience at AIPT A higher education institutions in East Java?

1.2. Research Purposes

This study aims to determine the significant effect:

- HEdPERF (high education performance) on the quality of student experience at AIPT A higher education institutions in East Java.
- Quality of student experience on cognitive outcomes at AIPT A higher education institutions in East Java.
- HEdPERF (high education performance) on cognitive outcomes through quality of student experience at AIPT A higher education institutions in East Java.

1.3. Benefit of Research

- The theoretical benefits of this research are expected to provide knowledge for service marketing
researchers, especially about the effect of HEdPERF (high education performance) on cognitive outcomes through the quality of student experience in higher education institutions.

- The empirical benefit of this research in general is to contribute strategic thinking to the management of higher education institutions to manage cognitive outcomes, especially through high education performance and quality of student experience.

2. Literature Review

2.1. Previous Research

The first previous research that became the reference for this research was the research conducted by Vazirova [23], in Northern Cyprus with the title Measuring Service Quality in Higher Education: A Study of Post-Graduate Students in Northern Cyprus. The results of this study indicate that the service quality variable has a significant relationship with the overall satisfaction of postgraduate students at the Mediterranean University of North Cyprus. These relationships were checked by distributing questionnaires to postgraduate and doctoral students from two faculties at the university. The study tested customer satisfaction with service quality. The study was conducted among postgraduate students. The results show that the five determinants of service quality have a correlation with satisfaction. The results of the study provide implications for managers regarding the limitations of the study. It also provides recommendations for further research. The second previous research that became the reference for this research was the research conducted by Tan [24] in Singapore with the title The Impact of Quality of Service and Experience on Students’ Learning outcomes in Higher Education Institutions. The research proves that there is a significant relationship between the quality of student experience and student satisfaction, as well as between the quality of student experience and learning outcomes. In addition, it also proves a significant relationship between the quality of service dimensions consisting of reliability, assurance, physical evidence, empathy, and responsiveness. However, there is an insignificant relationship between service quality and student satisfaction and the quality of student experience and between student satisfaction and learning outcomes. The research findings contribute to the theory and methodology. Theoretically, the research has proven the unimportance of the quality of market-oriented service strategies in influencing student satisfaction and the quality of student experience, and the unimportance of student satisfaction in influencing student learning outcomes, which implies there are problems surrounding the use of market-oriented strategies in higher education management. There is also a strong indication that the effect of student satisfaction and quality of experience on learning outcomes depends on stakeholders providing quality learning experiences that match the quality of student learning to have a positive impact on student learning outcomes, reflecting the values demanded by higher education stakeholders. Finally, given the similarities and differences in stakeholder perspectives, the study underscores the importance of higher education institution administrations to pay attention to the perspectives of multiple stakeholders in the management and improvement of the quality of student learning. It is also important for higher education institutions to balance the need for service orientation with the core mission of higher education. The research contributes to the policies and practices of the higher education system in Singapore including the effects of globalization on higher education learning outcomes.
2.2. HEdPERF (High Education Performance)

HEdPERF (Higher Education Performance) was developed by Abdullah [25] specifically to measure SERVQUAL in the Higher Education sector. It develops the strengths and weaknesses of the service quality dimensions and can serve for higher education institutions as a tool for properly allocating resources. Abdullah [25] proposed 41 item measurement tools based on 6 determinants, namely: (1) academic aspects, (2) reputation, (3) non-academic aspects, (4) access, (5) program problems, and (6) clear understanding. The measurement scale assesses the level of service quality and explores how different dimensions affect service quality. The HEdPERF model is a service quality measurement scale designed specifically for the higher education sector using qualitative and quantitative measures. In particular, this study determines the critical factors of service quality from the student's point of view looking through quantitative research methods. Higher education plays a global role in the development of each student as a person. There have been many studies conducted to investigate SERVQUAL in higher education institutions. In her research, Ana [26] compared instruments to measure service quality in higher education and concluded that SERVPERF and HEdPERF present the best measurement scale for examining SERVQUAL in education. Yen [27] conducted a study in Vietnam to measure SERVQUAL in higher education institutions to clearly understand the perception of SERVQUAL in higher education from the perspective of Vietnamese students. In this study, the SERVQUAL and SERVPERF measurement scales were used to measure service quality. Research findings show that Vietnamese students are mostly interested in the dimensions of responsiveness, tangible elements, and assurance [27]. Another study was conducted to examine the 5 dimensions of the SERVQUAL instrumentation in higher education institutions in Thailand [28]. The findings show that higher education institutions in Thailand do not meet student expectations. Analysis of the gap between service perceptions and expectations shows that all scores for perceptions are lower than students' expectations scores. As a recommendation to meet students' expectations in a better way, the improvement of university facilities and equipment should be improved. In another study, HEdPERF was compared with the combined measurement instrument SERVPERF and HEdPERF-SERPERF. It was found that HEdPERF proved a more precise representation in reflecting the population. Dennis [29] assessed that the HEdPERF instrument showed the superiority of the instrument compared to the SERPERF instrument. Many studies are conducted in universities by applying different measuring instruments such as SERVQUAL and SERPERF. The literature review indicates that more research and testing is needed to measure the quality of services provided by various higher education institutions. As followed from the literature review there are gaps in meeting student expectations as well as perceived quality from a student's point of view sometimes not correlated with the services provided. A number of reasons may be behind the gap. Therefore, the service quality perceived by students is unsatisfactory in some universities. Consequently, it is important to conduct more studies on SERVQUAL measurement in higher education.

The HEdPERF (High Education Performance) measurements used in this study are [23]:

- Non-academic aspects
- Academic aspect
- Reputational aspect
- Access aspect
2.3. Quality of Student Experience

The quality of the student experience can be described as the subjective quality of the mental state perceived by the student from the learning experience, also referred to as the service experience in the service context [30]. Otto and Ritchie [31] distinguish service experience quality from service quality. During service consumption, a series of interpersonal and human-environment interactions occur that determine service quality [32]. A high-quality experience is determined by the perceived quality, which creates the emotion and pleasure that comes from a service [33,34]. Service quality is a cognitive assessment of the service itself [35]. This post-consumption cognitive response produces an affective response that determines the quality of the consumption experience [36]. A study by Kao and his colleagues [34] revealed that service quality elements are positively related to experience quality. The quality of student experience as an activity to be managed institutionally is relatively new [37]. The term quality of student experience continues to have many meanings with the boundaries between the learning and teaching experience and those aspects of university life that inevitably impact the learning experience. It is also important to recognize that each student's experience will be unique [37]. Because in reality the journey of a student is intrinsically unique for each person influenced by one's journey during learning. However in this study the focus is on institutionally intended patterns of student experience, in areas where institutions can have influence. Therefore for the purpose of defining the quality of student experience to support the strategy, focus on generally accepted patterns related to the student life cycle during which learning and institutions have the potential to influence. Thus, for the purposes of the strategy to build the quality of student experience, the researcher widely adopted the scope used by Temple and his colleagues [37] which consists of 4 experiential components:

- The application experience
- The academic experience
- The campus experience
- The graduate experience

2.4. Cognitive Outcomes

Cognitive outcomes are known as formal knowledge, and are the real goals of the educational process. Among the many available definitions Gintis [38] defines cognitive outcomes as an individual's capacity to logically combine, analyze, interpret, and apply information symbols. Cognitive outcomes are stimulated throughout the individual learning process, transmitted in schools, and influenced by the teaching, curriculum, and institutions that define them. Traditional measures of cognitive outcomes are educational attainment and test scores. Test scores evaluate curriculum content and knowledge of a particular subject. Test scores have been used as the gold standard for characterizing educational performance and school quality [39]. Additional cognitive variables are [40]: comprehension, reading speed, school achievement, and graduation or dropout rates. The majority of these variables can be measured directly. Bloom also identifies other domains of ‘understanding’ or behavior - the
psychomotor domain (physical skills) and the affective domain (which has to do with the attainment of attitudes and values). While Bloom helps us think about the separate aspects of learning, it is important to remember that, when students are engaged in learning, the cognitive, affective, and psychomotor aspects of their learning are actually inseparable. Learning outcomes are statements of knowledge, skills, and abilities that each student must possess and can be demonstrated after completing a learning experience or series of learning experiences. Learning outcomes must be specific and well defined. Learning outcomes must be realistic. It is important to ensure that results are achieved. Results need to be reviewed considering the student's abilities and time available to achieve. Using curriculum mapping is one way to ensure that learning outcomes align with the curriculum. Curriculum map is a matrix where learning outcomes are plotted against a particular study program. Learning outcomes are listed in rows and courses in columns. The matrix helps clarify the relationship between what is assessed at the program level and what is taught. Learning outcomes must be simple and not complex. The results stated in the plan should be clear and simple. Learning outcomes must focus on learning products and not on the learning process. Learning outcomes should be expressed in terms of expected student performance and not in what faculty wish to do during teaching. The focus should be on students and what they should be able to demonstrate or produce upon completion of the program. The measurements used are the following measurements from California State University, Bakersfield, PACT Outcomes Assessment Handbook [41]:

- Knowledge
- Comprehension
- Application
- Analysis
- Synthesis
- Evaluation

3. Research Model

![Figure 1: Research Model](image)

4. Hypothesis

The hypotheses proposed in this study are:

- Hedperf (high education performance) has a significant effect on the quality of student experience at AIPT A higher education institutions in East Java.
- Quality of student experience has a significant effect on cognitive outcomes at AIPT A higher
education institutions in East Java.
- Hedperf (high education performance) has a significant effect on cognitive outcomes through the quality of student experience at AIPT A higher education institutions in East Java.

5. Research Methods

This research is a survey research because this research was conducted on a large population but the data studied are data from samples taken from that population. The type of data used in this research is the type of quantitative data. While the data source used in this study is the primary data source. The measurement of the data in this study is the Likert Scale. The data collection tool used is a questionnaire given to respondents to be answered according to their respective opinions and perceptions. The data collection method used in this research is a survey. In this study, the study population was all students at AIPT A university in East Java. The sample size used in this study was 200 people. Sampling using a proportional random sampling technique which gives a quota of the number of samples for each research object. Sample characteristics: active students at universities that have AIPT A in East Java and lives in East Java. The data analysis technique used in this study is the Structural Equation Model (SEM).

6. Research Result

The validity test in this study was carried out on all indicators of the research variables, totaling 16 measurements. The results of the validity test show that all measurements have a t-value > 1.96 so it can be said that all measurements are valid and deserve to be analyzed further. The reliability test showed that overall the research variables met the standard value of Construct Reliability (CR) > 0.7. Thus it can be concluded that the analysis can be continued. The model fit test is used to test whether the research model is a good model to present the major theory under study.

<table>
<thead>
<tr>
<th>Goodness of Fit</th>
<th>Cut of Value</th>
<th>Result</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>GFI</td>
<td>≥ 0.9</td>
<td>0.9</td>
<td>Fit</td>
</tr>
<tr>
<td>RMSEA</td>
<td>≤ 0.05</td>
<td>0.064</td>
<td>UnFit</td>
</tr>
<tr>
<td>AGFI</td>
<td>0.8 ≤ x ≥ 0.9</td>
<td>0.81</td>
<td>Marginal Fit</td>
</tr>
<tr>
<td>NFI</td>
<td>≥ 0.9</td>
<td>0.95</td>
<td>Good Fit</td>
</tr>
<tr>
<td>IFI</td>
<td>≥ 0.9</td>
<td>0.98</td>
<td>Good Fit</td>
</tr>
<tr>
<td>CFI</td>
<td>≥ 0.9</td>
<td>0.98</td>
<td>Good Fit</td>
</tr>
<tr>
<td>RFI</td>
<td>≥ 0.9</td>
<td>0.93</td>
<td>Good Fit</td>
</tr>
</tbody>
</table>

Based on Table 1, it can be explained that the research model proposed in this study is acceptable. The research model can be used to predict the effect of each exogenous variable on the endogenous variable.
Table 2: Hypothesis Test Results

<table>
<thead>
<tr>
<th>Hypothesis</th>
<th>Relationship Pattern</th>
<th>Loading factor</th>
<th>t-value</th>
<th>Cut-off Value</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>HEdPERF → Quality of Student Experience</td>
<td>0.78</td>
<td>2.87</td>
<td>1.96</td>
<td>Significant</td>
</tr>
<tr>
<td>2</td>
<td>Quality of Student Experience → Cognitive Outcomes</td>
<td>0.45</td>
<td>2.73</td>
<td>1.96</td>
<td>Significant</td>
</tr>
<tr>
<td>3</td>
<td>HEdPERF → Quality of Student Experience → Cognitive Outcomes</td>
<td>0.69</td>
<td>3.98</td>
<td>1.96</td>
<td>Significant</td>
</tr>
</tbody>
</table>

Based on Table 2, it can be explained that:

- The loading factor value of the effect of HEdPERF on the Quality of Student Experience is 0.78 while the t-value is 2.87 (> 1.96), so it can be stated that HEdPERF has a positive and significant effect on the Quality of Student Experience.
- The loading factor value of the influence of Quality of Student Experience on Cognitive Outcomes is 0.45 while the t-value is 2.73 (> 1.96), it can be stated that Quality of Student Experience has a positive and significant effect on Cognitive Outcomes.
- The loading factor value of the effect of HEdPERF on Cognitive Outcomes through Quality of Student Experience is 0.69 while the t-value is 3.98 (> 1.96), it can be stated that the effect of HEdPERF on Cognitive Outcomes through Quality of Student Experience is positive and significant.

7. Discussion

The results of the study prove that the mean value of the descriptive statistic of HEdPERF (high education performance) is 3.81 and the standard deviation is 0.67. The average value proves that the respondents agree with the measurement of hedperf (high education performance), namely: when staff promise to do something at a certain time to me, they do it, academic staff are highly educated in their respective fields, the university has the appearance / image professional, the university has an ideal location with an excellent layout, the university runs high quality programs, the academic staff allocates sufficient time for consultation. While the quality of student experience has a mean value of 3.93 and a standard deviation of 0.71. The mean value proves that the respondents agree with the measurement of the quality of student experience, namely: the university implements an easy registration process to acceptance, academic staff places greater emphasis on improving the quality of teaching, the university provides opportunities for students to be involved in campus activities for soft skill development. , and the university provides career development programs for students. The mean value of cognitive outcomes descriptive statistics has a mean value of 3.73 and a standard deviation of 0.74. The mean value proves that respondents agree on the measurement of cognitive outcomes, namely: I know the concept of theory, I am able to explain theory, I am able to apply knowledge to solve problems, I am able to do analysis, I am able to integrate ideas into solutions, and I am able to assess the quality something based on logic or use. The results of the hypothesis test prove that the loading factor of the influence of hedperf (high education performance) on the quality of student experience is 0.78 with a t-value of 2.87 (> 1.96) therefore the results are declared significant and positive. These results prove that if the university provides high education performance
(high education performance), students will get a high quality of student experience. The loading factor of the influence of quality of student experience on cognitive outcomes is 0.45 with a t-value of 2.73 (> 1.96) therefore the results are stated to be significant and positive. These results prove that if the university provides quality of student experience, the cognitive outcomes of students will also be high. The loading factor of Hedperf's influence (high education performance) on cognitive outcomes through the quality of student experience is 0.69 and the t-value is 3.98 (> 1.96), then the results are declared significant and positive. These results prove that students who feel Hedperf (high education performance) on the quality of student experience ultimately have high cognitive outcomes. The results of this study support previous research conducted by Vazirova [23], in Northern Cyprus which proved that the service quality variable had a significant relationship with the overall satisfaction of postgraduate students at the Mediterranean University of North Cyprus. In addition, the results of this study also support the results of research conducted by Tan [24] in Singapore which proves that there is a significant relationship between the quality of student experience and student satisfaction, as well as between the quality of student experience and learning outcomes. The research contributes to the policies and practices of the higher education system in Singapore including the effects of globalization on higher education learning outcomes.

8. Conclusion

Based on the results of hypothesis testing, it can be concluded that:

- Hedperf (high education performance) has a significant effect on the quality of student experience at AIPT A higher education institutions in East Java, accepted.
- Quality of student experience has a significant effect on cognitive outcomes at AIPT A higher education institutions in East Java, accepted.
- Hedperf (high education performance) has a significant effect on cognitive outcomes through the quality of student experience at AIPT A higher education institutions in East Java, accepted.

9. Suggestion

Academic suggestion. This suggestion is proposed for Marketing Management students to continue to examine the variables that affect consumer loyalty apart from the variables studied in this study, namely: hedperf (high education performance), quality of student experience, and cognitive outcomes. And practical Advice are:

- Hedperf (High Education Performance). Universities should pay attention to aspects: non-academic, academic, reputation, access, programs, and empathy to continue to be managed properly in order to have high performance.
- Quality of Student Experience. Universities should pay attention to the experiences that universities can provide to students, namely: the application experience, the academic experience, the campus experience and the graduate experience.
- Cognitive Outcomes. The university should pay attention to the cognitive outcomes that students have as a result of studying at the university, namely: knowledge, comprehension, application, analysis,
synthesis, and evaluation.

10. Research Limitations

The limitation of this study is that the population of this study involved both public and private universities. Meanwhile, the management applied in both public and private universities is different. So it is very possible that there are differences in the perception of respondents from state universities and private universities.

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