

Research Article

The Influence of the Dimensions of Educational Personnel Service Quality on Student Satisfaction Faculty of Mathematics and Natural Sciences, Yogyakarta State University

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Abstract: This research aims to explore and analyze the influence of the service quality dimensions of educational staff on student satisfaction at the Faculty of Mathematics and Natural Sciences (FMIPA) Yogyakarta State University. The quality of services provided by educational staff is a crucial factor that can affect students' perceptions and experiences during their higher education journey. This study focuses on five dimensions of service quality, including reliability, responsiveness, assurance, empathy, and tangibles, which are believed to have an impact on student satisfaction. The research method used is quantitative with a survey approach. Primary data was collected through questionnaires distributed to 100 students from the 2021 cohort enrolled at FMIPA Yogyakarta State University. Respondents were selected randomly using stratified random sampling techniques to ensure adequate representation from various study programs within FMIPA. The questionnaire used was validated and tested for reliability and validity. Data analysis was conducted using multiple linear regression to identify the influence of each service quality dimension on student satisfaction. The results of the study indicate that these dimensions have a significant influence on student satisfaction, with empathy and assurance dimensions contributing the most. These findings have important implications for improving the quality of services provided by educational staff to enhance student satisfaction at FMIPA Yogyakarta State University. The study's findings show that the service quality dimensions of tangibles, reliability, responsiveness, assurance, and empathy positively and significantly influence student satisfaction. The tangible dimension of service quality contributed 6.6% to student satisfaction, the reliability dimension 8.5%, the responsiveness dimension 9.4%, the assurance dimension 16.2%, and the empathy dimension 8.5%.

Keywords: Assurance; Empathy; Quality of Service; Satisfaction; Students

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1. Introduction

Higher education plays a key role in developing competitive human resources. Higher education institutions that maintain high quality standards are also capable of producing individuals who can become leaders and key thinkers for the country in its future development process (Nulhaqim et al., 2016). In Indonesia, over the past ten years, significant changes have occurred in the world of higher education. These changes include shifts in paradigms, management, competition, and other aspects. These paradigm shifts are primarily driven by advances in information technology. Technologies such as e-learning and e-universities are becoming increasingly popular and sought after. The management of higher education is also undergoing changes, both by government and private institutions. Higher education institutions are seen not only as centers of knowledge, research, and community service, but also as corporate entities that need to compete to ensure their survival (Nursanjaya, 2019).

In the higher education system, students are considered the primary consumers of universities. Therefore, it is crucial for universities to understand the factors that influence student satisfaction with their learning environment (Weerasinghe & Fernando, 2018).

Customer satisfaction is the endpoint of various marketing activities. Furthermore, it provides various unexpected benefits for organizations, such as generating client loyalty, significantly reducing marketing costs, and enhancing business reputation (Dandis et al., 2022). Based on this, improving customer satisfaction is crucial, including student satisfaction, in higher education organizations.

The quality of service of the educational staff (tendik) of the Faculty of Mathematics and Natural Sciences (FMIPA) Yogyakarta State University plays an important role in determining the level of student satisfaction. Student interaction is not only with lecturers in academic activities, but also with educational staff in terms of administrative services, library services, laboratories, and other student services. The quality of service provided by educational staff can affect the overall student learning experience and, ultimately, affect their level of satisfaction with the institution. The importance of quality service has become a focus of attention in many universities, including FMIPA Yogyakarta State University. Students as one of the main stakeholders are expected to receive optimal service so that their learning process can run smoothly. Therefore, assessing the quality of service provided by educational staff is important to be done periodically. Good service quality will have a positive impact on student satisfaction, which in turn can improve the image and reputation of the institution.

Some factors that are usually assessed in service quality include responsiveness, reliability, empathy, responsiveness, and assurance. This study aims to measure the extent to which the quality of service of educational staff at the Faculty of Mathematics and Natural Sciences, Yogyakarta State University affects the level of student satisfaction. Thus, the results of this study are expected to provide valuable input for the faculty in efforts to improve services to students, as well as become a reference for policies to improve service quality in the future. This is because there are still students of the Faculty of Mathematics and Natural Sciences, Yogyakarta State University. who are dissatisfied with the services provided . Complaints from students regarding service hours that do not comply with SOP, such as educational staff not immediately going to the room when the break is over, service from educational staff who are felt to be less friendly, the process of borrowing rooms and equipment is quite long. The process of managing correspondence services also has to go through several stages so that students complain about the long service time. FMIPA students also complained about chairs in lecture rooms that are worn out, lecture equipment such as whiteboards, LCDs are also old and no longer suitable. The book collection in the library is also considered insufficient because students have to queue with other students to borrow a particular book collection. A preliminary survey was conducted by distributing questionnaires to 15 students of the Faculty of Mathematics and Natural Sciences, Yogyakarta State University in May 2024.

Of the 15 students who were given a questionnaire, 1 student stated that they were dissatisfied with administrative services, 2 students stated that they were dissatisfied with campus facilities, and 2 students stated that they were dissatisfied with academic services. This indicates that there is still a problem of student dissatisfaction, especially in these indicators, and must receive attention from employees and leaders at the Faculty of Mathematics and Natural Sciences , Yogyakarta State University . This is because dissatisfaction in students can have a negative impact on students. Parveen & Sadiq (2019) stated that student dissatisfaction can cause students to experience severe stress both in the personal sphere by developing feelings of escape from learning activities that give rise to alienation and also in the academic context that leads to academic stress.

Student satisfaction is influenced by the quality of educational services. This is because educational institutions, such as universities, provide intangible services rather than selling tangible products and are compensated for them. Educational services are characterized by the interaction between educational providers, including universities and staff, with students to satisfy them (Ganbold et al., 2023). The level of student satisfaction depends on their perceptions of the experience and performance of the educational services provided by the higher education institution (Weerasinghe & Fernando, 2018). The dimensions of service quality in higher education in various previous studies are very diverse. The most popular scale used to measure service quality is SERVQUAL from Parasuraman et al. (1988) (Bui et al., 2023).

Tangible (physical evidence) is the university's ability to demonstrate attractiveness through physical facilities, equipment, materials, and employee appearance (Rahmat, 2021, p. 33) . The tangible dimension of service quality (physical evidence) plays an important role in increasing student satisfaction. This is because universities essentially provide services, and service characteristics are essentially intangible. Physical elements allow people to judge a service based on what they see. The term " tangible " in higher education refers to physical elements that can be observed to evaluate a service that can contribute to student satisfaction (Bwachele et al., 2023, p. 4) . The positive influence of the tangible dimension of service

quality The impact of tangible service quality on student satisfaction is proven by research by Maknun & Azzuhri (2015), Alsheyadi & Albalushi (2020), and Magasi et al. (2022). Research by Abu-Rumman & Qawasmeh (2022) and Bwachele et al. (2023) proves that tangible service quality has no effect on student satisfaction.

Reliability emphasizes a company's ability to provide services accurately, without errors, and on time as promised (Rahmat, 2021). Students will be willing to enroll in a university that provides services that have proven reliability compared to a university with new and untested processes and facilities that cannot provide the required assurance (Abu-Rumman & Qawasmeh, 2022). Students will be satisfied if the university keeps its promises and provides error-free services (Bwachele et al., 2023). The influence of the reliability dimension of service quality on student satisfaction is proven by research by Alsheyadi & Albalushi (2020), Abu-Rumman & Qawasmeh (2022), Magasi et al. (2022), and Bwachele et al. (2023). Meanwhile, research by Maknun & Azzuhri (2015) proves that the reliability dimension of service quality has no effect on student satisfaction.

Responsiveness encompasses employee responsiveness in assisting customers, providing information about service availability, and providing prompt service (Rahmat, 2021). Student satisfaction also increases when academic and administrative staff are willing to provide valuable and prompt service to students (Bwachele et al., 2023). This indicates that the responsiveness dimension of service quality influences student satisfaction, as evidenced by research by Maknun & Azzuhri (2015); Alsheyadi & Albalushi (2020); Abu-Rumman & Qawasmeh (2022); and Magasi et al. (2022). Bwachele et al. (2023) study found that the responsiveness dimension of service quality had no effect on student satisfaction.

The assurance dimension of service quality includes the knowledge and courtesy of employees and their ability to inspire trust and confidence (Magasi et al., 2022). This dimension is important for building student trust and confidence, as well as increasing student satisfaction (Bwachele et al., 2023). The influence of the assurance dimension of service quality on student satisfaction is proven by research by Alsheyadi & Albalushi (2020); Abu-Rumman & Qawasmeh (2022); and Magasi et al. (2022). Meanwhile, research by Bwachele et al. (2023); and Maknun & Azzuhri (2015) found that the assurance dimension of service quality had no effect on student satisfaction.

The empathy dimension of service quality also contributes to increased student satisfaction. The empathy *dimension* assesses the amount of attention given to individual students, namely the ability of employees to listen, contact, approach, understand, and keep students updated on their problems (Alsheyadi & Albalushi, 2020). Customers need to feel unique, special, and a priority in the organization, which can be demonstrated through caring, providing customer service, and providing personal attention (Abu-Rumman & Qawasmeh, 2022). The positive influence of empathy dimension service quality on student satisfaction is proven by research by Alsheyadi & Albalushi (2020); Abu-Rumman & Qawasmeh (2022); and Magasi et al. (2022). Meanwhile, research by Maknun & Azzuhri (2015) and Bwachele et al. (2023) found that empathy *dimension service quality* had no effect on student satisfaction.

Previous research findings indicate inconsistencies. Therefore, it is interesting to examine the influence of service quality dimensions tangible, reliability, responsiveness, assurance, and empathy on student satisfaction. Therefore, the researcher is interested in conducting a study entitled "The Influence of Service Quality Dimensions of Educational Personnel on Student Satisfaction at the Faculty of Mathematics and Natural Sciences, Yogyakarta State University."

2. Literatute Review

Student Satisfaction

Student satisfaction is defined as students' subjective feelings towards educational services, which are both majority and universal (Cao, 2023). Student satisfaction is a student's subjective evaluation of various outcomes and experiences related to education, and is continuously shaped by repeated experiences in campus life (Annamdevula & Bellamkonda, 2016). Student satisfaction generally refers to a short-term attitude resulting from the evaluation of the educational experience that students have had. Satisfaction occurs when actual performance meets or exceeds student expectations (Bui et al., 2023).

Based on the above opinion, it can be concluded that student satisfaction is a subjective feeling of the majority and universal towards educational services, which is a continuous evaluation of various educational outcomes and experiences experienced by students in the campus environment, where satisfaction is achieved when the actual performance of educational services meets or even exceeds student expectations.

Student Satisfaction Indicators

Customer satisfaction is a key factor driving service performance beyond expectations. In the existing literature, there are two conceptualizations of customer satisfaction: (a)

transaction-specific satisfaction, and (b) cumulative satisfaction. Transaction-specific satisfaction relates to the outcome of a single purchase and use of a product or service. Cumulative satisfaction relates to overall satisfaction with a product or service after multiple purchases and experiences over time, leading to customer loyalty (Meesala & Paul, 2016).

Satisfaction includes: 1) satisfaction with the learning process, 2) satisfaction with the university's academic management, 3) satisfaction with administrative services, 4) satisfaction with campus facilities, 5) satisfaction with learning facilities, 6) satisfaction with responsive communication, 7) satisfaction with academic services, 8) satisfaction with the curriculum, 9) satisfaction with the university's academic policies, and 10) satisfaction with university management (Heriyanto, 2017).

Nofriavani et al. (2022) stated that there are four indicators that contribute to student satisfaction with the services they receive. The first indicator is service procedures, which refers to the ease of the service stages provided to the public, assessed through the simplicity of the service flow. The second indicator is justice in service, which involves providing services without discrimination, ensuring that there is no differentiation between groups or status of the people served. The third indicator is environmental comfort, which pertains to the condition of service facilities and infrastructure that are clean, neat, and orderly, creating a sense of comfort for service recipients. Lastly, service security ensures the level of security of the service provider unit environment and the facilities used, allowing the public to feel calm and free from risks while receiving services.

Tjiptono (as cited in Tumangger & Assyifa, 2022, pp. 20-21) identified several indicators that contribute to student satisfaction. The first indicator is overall student satisfaction, where students are asked to directly assess their level of satisfaction with the services provided by the campus. This includes their evaluation of both the quality of services and the overall campus experience. The second indicator, student expectation alignment, reflects how well the performance of campus staff meets the students' expectations. It ensures that students feel comfortable with the services and the quality provided by the campus staff. The third indicator, student learning interest, gauges the extent to which students are willing to engage in their learning and how intrinsically motivated they are to actively participate in the learning process. The goal is to ensure that the learning system fosters satisfaction and inspires positive learning interests. Lastly, student willingness to recommend measures how likely students are to recommend the campus to friends or family as a place for studying, skill development, or utilizing the services offered by the campus.

Considering the opinions outlined above, it appears that experts and researchers differ regarding student satisfaction indicators, as these indicators are tailored to the specific circumstances of the research location. In this study, drawing on the aforementioned opinions and adapting to the conditions at the Faculty of Mathematics and Natural Sciences, Yogyakarta State University, the student satisfaction indicators used are as follows: satisfaction with the learning process, satisfaction with administrative services, satisfaction with campus facilities, satisfaction with learning facilities, satisfaction with academic services, satisfaction with environmental comfort, and overall student satisfaction.

Student Satisfaction Measurement Methods

Customer satisfaction is obtained through both indirect and direct measures. Indirect measures of customer satisfaction include tracking and monitoring sales records, profits, and customer complaints. Companies that rely solely on indirect measures take a passive approach to determining whether customer perceptions meet or exceed customer expectations. Furthermore, if the average company does not hear from 96 percent of its dissatisfied customers, it will lose many customers while waiting for the remaining 4 percent to express their opinions. Direct measures of satisfaction are typically obtained through customer satisfaction surveys. However, customer satisfaction surveys are not standardized across companies. For example, the scales used to collect data vary (e.g., 5-point to 100-point scales), the questions asked to respondents vary (e.g., general to specific), and the data collection methods vary (e.g., personal interviews and questionnaires) (Hoffman & Bateson, 2011).

Dwiastuti et al. (2012) identified four methods to measure consumer satisfaction, which can also be applied to students in higher education institutions. The first method is the Complaints and Suggestions System, where companies, prioritizing consumer satisfaction, provide opportunities for consumers to voice their opinions, suggestions, and complaints, often through mediums like suggestion boxes. The second method is the Consumer Satisfaction Survey, widely used by many companies to assess satisfaction through surveys conducted by mail, telephone, or personal interviews. This method allows for direct consumer feedback, demonstrating the company's commitment to understanding consumer needs. The third method is Ghost Shopping, where individuals act as customers at competing companies to gain deeper insights into the customer experience. Finally, the Lost Customer Analysis

involves contacting customers who have stopped using a service or switched to a competitor in order to understand the reasons behind their decision.

Methods for measuring customer satisfaction through surveys can be approached in several ways. One method is Directly Reported Satisfaction, where measurement is conducted by asking customers directly about their satisfaction levels. Another method is Derived Dissatisfaction, where questions focus on the customers' expectations regarding specific attributes and how they perceive the company's performance in those areas. Problem Analysis involves asking respondents to identify problems they encounter with the company's offerings and to suggest improvements. Lastly, Importance Performance Analysis asks respondents to rate the significance of various elements or attributes of the offering, while also evaluating how well the company performs in each of these areas (Nurlinda, 2013).

Based on the theory above, it can be concluded that customer satisfaction measurement methods can be divided into two main approaches: indirect measurement and direct measurement. Indirect measurement involves tracking and monitoring records such as sales, profits, and customer complaints. Companies that rely on this method adopt a passive approach to assessing whether customer perceptions meet or exceed their expectations. However, the main risk is that companies may miss insights from the large portion of customers who do not express their dissatisfaction directly.

Direct measurement is generally conducted through customer satisfaction surveys. These surveys can be conducted through various methods, such as postal mail, telephone, or personal interviews. Several methods can be employed in surveys, including direct measurement, asking questions about expectations and perceived service performance, asking about problems encountered in service and suggestions, and asking about the company's performance level based on existing measurement dimensions. The main advantage of this approach is that companies can obtain direct feedback from customers, demonstrating attention to their needs and opinions.

Factors Influencing Student Satisfaction

Several factors influence consumer satisfaction, including student satisfaction in the context of higher education. One of the key factors is product quality. Consumers or customers will feel satisfied if the evaluation results show that the product they use is of good quality. Service quality is also crucial. Service quality is not limited to the pure service industry, as all companies provide services to customers. Customers will feel satisfied if they receive good service that meets their expectations. Emotional factors also play an important role in satisfaction. Consumers will feel proud and confident when others are impressed by a particular brand, and they tend to experience higher levels of satisfaction. This satisfaction isn't solely due to product quality, but rather the emotional value that makes customers satisfied with a specific brand. Price is another influencing factor. Products that have the same quality but are priced lower provide higher value to customers. Additionally, the cost and ease of obtaining a product or service are significant. Customers who don't have to incur additional costs or waste time acquiring a product or service tend to be more satisfied with that particular product or service (Christina, 2021).

Student satisfaction can be influenced by several different factors. First, factors related to the university's product, such as the suitability of the curriculum, the balance between tuition fees and facilities offered, and the institution's ability to meet students' needs and rights. Second, factors related to the services provided by the institution, including those provided by lecturers and administrative staff, which include assurance and responsiveness to academic issues faced by students. Third, factors related to the professionalism of lecturers and the comfort and ease of students in participating in the learning process (Rahmawati, 2013).

Another opinion states that several factors influence student satisfaction. First, product quality and its alignment with student expectations play a significant role in creating satisfaction. Evaluations of the product include its type, quality, and availability. Second, price is a factor that influences students' perceptions of the value they receive. Assessments of price involve both the level of the price and the product's value proposition. Third, promotion is crucial in effectively communicating the benefits of educational services to students. This can include advertising, discounts, and awards for outstanding students. Fourth, location affects student accessibility and comfort. Evaluations of this factor involve the campus's location, transportation options, and overall accessibility. Fifth, employee services are important; positive interactions between students and campus staff can enhance satisfaction. This factor includes the responsiveness and friendliness of staff in meeting student needs. Sixth, the availability of facilities such as libraries, laboratories, and study rooms impacts student satisfaction by supporting their educational activities. Lastly, the atmosphere of the campus contributes to creating a positive experience for students. The overall impression made by

the campus environment can significantly add value to student satisfaction (Tumangger & Assyifa, 2022).

Based on the theories above, it can be concluded that several factors influence student satisfaction. First, university products play a significant role, which includes the quality of the curriculum, the balance between educational costs and the facilities offered, as well as the institution's ability to meet students' needs and rights. Second, quality of service is another key factor, encompassing interactions with lecturers and administrative staff, responsiveness to academic issues, and the professionalism in delivering educational services. This also includes the friendliness and responsiveness of employees in addressing student needs. Third, price and value are crucial aspects, which reflect students' assessment of the value they receive for their education. This includes whether the price they pay is commensurate with the benefits and experiences they gain. Fourth, promotion and communication are vital, with the effectiveness of communicating the benefits of educational services, such as through advertising, discounts, or academic awards, contributing to increased student satisfaction. Fifth, location and accessibility also impact student satisfaction, as the availability and accessibility of the campus, including location, transportation, and ease of access, affect students' comfort in reaching educational facilities. Sixth, the educational facilities available, such as libraries, laboratories, and study rooms, which support academic activities, significantly enhance the quality of education and overall student satisfaction. Lastly, the campus atmosphere and mood also contribute to student satisfaction, as the overall ambiance of the campus plays a crucial role in fostering a positive and engaging learning experience.

Dissatisfaction Response

If a consumer is dissatisfied with a product or service, they have three possible actions, although they may sometimes take more than one action. The first option is the voice response, where consumers directly appeal to the retailer for redress, such as requesting a refund. The second option is a private response, where consumers express their dissatisfaction to friends and may choose to boycott the product or store where they made the purchase. The third option is a third-party response, in which consumers take legal action against the merchant, file a complaint with organizations like the Better Business Bureau, or write a complaint in a newspaper (Solomon, 2013, p. 380). Additionally, Mothersbaugh and Hawkins (2013, p. 633) describe the customer dissatisfaction response in the following picture.

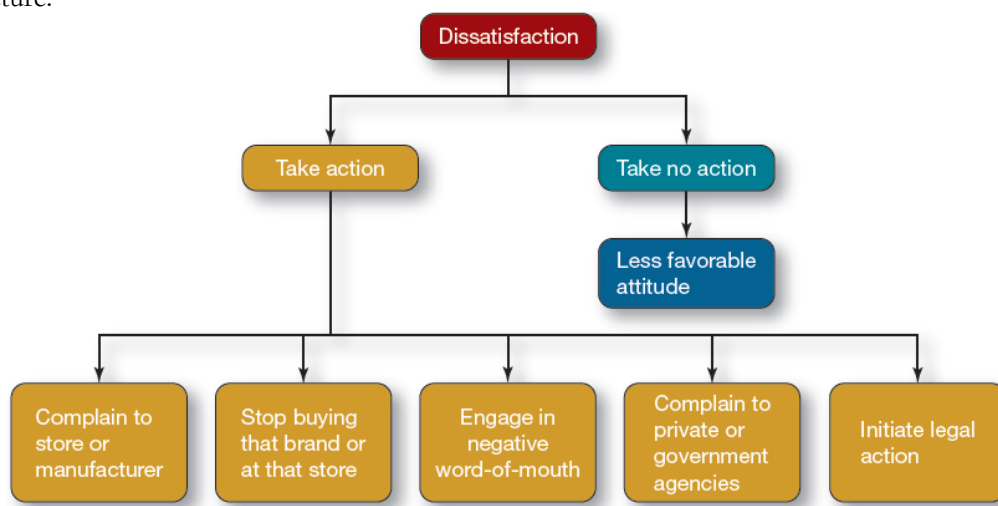


Figure 1. Customer Dissatisfaction Response

The explanation of customer dissatisfaction responses is as follows: when customers experience dissatisfaction, the level of dissatisfaction alone is not enough to predict whether they will voice a complaint. Consumers are more likely to refrain from taking action if they believe that raising a complaint will require significant time and effort, if they feel there is little likelihood of benefit, or if the issue at hand seems trivial (Hoyer et al., 2013). On the other hand, a small number of consumer complaints may signal a marketing problem that needs to be addressed. When customers do express dissatisfaction, they may communicate their concerns to various parties, including manufacturers, retailers, regulatory agencies, the media, or through platforms like Yelp and social media sites (Hoyer et al., 2013). Additionally, research shows that 54% of dissatisfied customers may choose to switch brands, indicating their intent to stop purchasing from the same brand (Mothersbaugh & Hawkins, 2013). Another common response to dissatisfaction is negative word-of-mouth, where customers share their complaints with others in order to vent their frustration and discourage potential buyers from engaging with the product or company. This type of communication is more

frequent when the problem is significant, when customers feel the company has not adequately addressed their concerns, or when they believe the company is at fault. Negative word-of-mouth carries considerable weight because it is persuasive, memorable, and influential in shaping consumer decisions, which can deter others from continuing business with the company (Hoyer et al., 2013). In some cases, customers may seek formal assistance through legal channels or government agencies. Therefore, marketers must understand the conditions under which complaints are likely to occur and the consumer demographics that are vulnerable to filing complaints (Hoyer et al., 2013).

According to Solvang (2008), Hirschman (1970) presents two main forms of protest due to consumer dissatisfaction: protesting to the store or to a public complaint agency (voice) or changing stores (exit). However, research has shown a relationship between voice and word-of-mouth (WOM), so WOM is considered a third form of protest. Exit refers to the primary behavior of leaving the store and becoming a customer at another store, with both costs and benefits. The costs of exit are related to access to alternatives and customer loyalty. Exit costs are higher when no alternative stores are available, and if customers believe that complaining will be effective, it may delay their decision to exit. Customer loyalty can act as a barrier to exit. Voice, on the other hand, complements exit rather than substituting for it. Declining satisfaction and increasing exit costs play equal roles in driving complaints or vocalizing dissatisfaction. Loyal customers are often overrepresented among complainers, according to Hirschman's (1970) theory. Angry individuals tend to score high on word-of-mouth (WOM), while activists tend to engage more in complaints and third-party actions, such as consumer agencies. Other factors that influence complaining behavior include perceived risks, beliefs about the success of the complaint, and the benefits and costs of complaining. WOM is often driven by higher potential losses and the organization's handling of complaints. If a company mishandles complaints, it can lead to a loss of goodwill and more negative WOM. The more negative the complaint handling is expected to be, the greater the likelihood of negative WOM (Solvang, 2008).

Based on the theory above, it can be concluded that when customers are dissatisfied with service, they have various courses of action. Consumers may either take no action or choose to act. If they decide to act, they can leave and move to another store or service provider, voice or complain about their dissatisfaction, spread negative word-of-mouth by telling others, or take legal action.

Quality of Service

As a concept, quality is understood from the perspective of products/services in business, and it has been observed that developing a standard concept of quality in the service sector is the most challenging due to the intangible nature or features of services. Service quality can be briefly defined as the experience related to customer anticipation and perception of the service provided. Therefore, if the service provided does not meet or exceed customer expectations, then the service quality will be perceived as low, but if it exceeds customer expectations, then the service quality will be perceived as high (Borishade et al., 2021).

The above definition is in accordance with the definition of service quality from Parasuraman et al., namely the gap between the service perceived by customers and the service expected (Bui et al., 2023). Service quality is the perception of the effectiveness and efficiency of the services offered by an organization (Salamah et al., 2022).

The definition of service quality in higher education varies in its quality benchmarks, considering different perspectives (Al-Kilani & Twaissi, 2017). In the field of higher education, service quality is defined as the difference between students' expectations and experiences of higher education services (Pham et al., 2019). Service quality is a general evaluation of educational services as a whole (Park & Kim, 2023). Service quality in higher education can be described as the characteristics of educational elements and by utilizing the capabilities and potential of these elements, the explicit and implicit expectations and needs of educational customers can be met and their satisfaction can be obtained (Al-Kilani & Twaissi, 2017).

Based on the theories above, it can be concluded that service quality in higher education is the gap between the services actually experienced and perceived by students and the services they expect. This service quality reflects an overall evaluation of the effectiveness, efficiency, and adequacy of services provided by educational institutions to students. In this context, the gap between student expectations and experiences is the primary benchmark for assessing the extent to which educational services meet educational needs and achieve student satisfaction.

The most widely used scale for measuring service quality in higher education is Parasuraman's SERVQUAL, which includes five dimensions. The first dimension, Tangible, refers to a company's ability to demonstrate its presence to external parties. This includes physical facilities, such as buildings and warehouses, as well as the equipment and tools used,

and the appearance of employees. The second dimension, Reliability, concerns the company's ability to deliver promised services accurately and dependably. Performance must align with customer expectations, which involves punctuality, quality of service, and the attitude of employees. The third dimension, Responsiveness, relates to the policy of helping customers and providing fast and accurate services, with clear information being delivered. The fourth dimension, Assurance (guarantee), is the knowledge, politeness, and competence of company employees, which helps build customer trust in the company. Finally, the fifth dimension, Empathy, involves providing sincere attention to customers by striving to understand their desires (Christina, 2021).

However, the use of SERVQUAL has been widely criticized for its inaccuracy in measuring the quality of educational services, as it fails to account for the specific nature and understanding of educational services. Students' experiences in higher education differ from those of consumers of general services, and measuring service quality requires consideration of the characteristics of the industry, culture, and service users (Park & Kim, 2023, p. 1008).

In this study, Parasuraman's SERVQUAL was used, which includes five dimensions, namely: tangible, reliability, responsiveness, assurance, and empathy.

3. Research Method

The research is a causal study, namely research that aims to investigate the cause-and-effect relationship between two or more variables. In causal research, an attempt is made to clarify how changes in the value of one variable can affect changes in the value of one or more other variables (Silalahi, 2009). The approach used is quantitative, which means this research focuses on investigating problems by testing theories that have variables that are measured using numbers, and analyzed using statistical methods (Triyono, 2015).

The data collection technique used in this study was a questionnaire. A questionnaire is a set of pre-formulated written questions to which respondents record their answers, usually in relatively close alternatives (Sekaran & Bougie, 2016). In this study, the service quality instrument was adopted from several studies and adapted to the conditions of students at the Faculty of Mathematics and Natural Sciences, Yogyakarta State University.

4. Results and Discussion

The Influence of Service Quality on the Tangible Dimension (Physical Evidence) on Student Satisfaction

The results of the study show that the tangible dimension of service quality (physical form) has a positive and significant effect on student satisfaction at the Faculty of Mathematics and Natural Sciences, Yogyakarta State University. The effective contribution of tangible service quality to student satisfaction was 6.6%. This study supports the research findings of Maknun & Azzuhri (2015); Alsheyadi & Albalushi (2020); and Magasi et al. (2022).

Services are inherently intangible, and physical elements allow people to judge a service based on what they see. Students will be more satisfied if their perceived tangibility is higher (Bwachele et al., 2023). When these physical aspects are properly addressed, it will lead to a positive service experience, create a sense of well-being, and increase overall student satisfaction.

Modern and up-to-date service support equipment improves service efficiency and effectiveness, fostering student confidence and trust in the service provided by administrative staff. Furthermore, modern equipment reflects the university's commitment to quality service to students, which naturally leads to student satisfaction. Comfortable, well-organized, and attractive service spaces allow students to feel more relaxed and at ease while providing services. The comfort of the space also creates a pleasant and satisfying experience.

The neat appearance of educational staff reflects their professionalism and commitment to providing service. This professionalism makes students feel more confident in interacting with them. Students will feel confident that the staff will be able to resolve problems and provide what they need, thus increasing student satisfaction.

The Influence of Service Quality, Reliability Dimension, on Student Satisfaction

The results of the study show that the reliability dimension of service quality has a positive and significant effect on student satisfaction at the Faculty of Mathematics and Natural Sciences, Yogyakarta State University. The effective contribution of the reliability dimension of service quality to student satisfaction is 8.5%. The results of this study support the research findings of Alsheyadi & Albalushi (2020); Abu-Rumman & Qawasmeh (2022); Magasi et al. (2022); and Bwachele et al. (2023).

The reliability dimension reflects how well educational staff fulfill promises, handle problems, and communicate with students. All of these aspects contribute to a positive experience and increase student satisfaction. Reliability in service demonstrates

professionalism and a commitment to quality, which are highly valued by students and significantly influence their perceptions of the service provided.

The ability of educational staff to provide services as promised, creates confidence in students that educational staff are able to provide services accurately, so that students feel more comfortable and satisfied with the services received. The sincerity of educational staff in helping solve problems, causes students to feel that educational staff care about them, feel appreciated and cared for, so that it will increase their satisfaction.

Timely service from educational staff, as specified, will impact student time efficiency, allowing them to carry out their activities without being disrupted by long service times. Punctuality also provides student certainty, resulting in satisfaction due to the process being on schedule.

Having clear information from educational staff regarding the completion time of services if there are obstacles demonstrates transparency and good communication from educational staff. Transparency in the service process increases student confidence that they will receive results according to the time and process informed, so this will lead to student satisfaction. Student satisfaction will also increase if student data is stored accurately, thus increasing student trust in educational staff services.

The Influence of Service Quality, Responsiveness Dimension, on Student Satisfaction

The results of the study show that the quality of service in the responsiveness dimension has a positive and significant effect on student satisfaction at the Faculty of Mathematics and Natural Sciences, Yogyakarta State University. The effective contribution of the responsiveness dimension of service quality to student satisfaction is 9.4%. The results of this study support the results of the previous research. Makhnun & Azzuhri (2015); Alsheyadi & Albalushi (2020); Abu-Rumman & Qawasmeh (2022); and Magasi et al. (2022).

The responsiveness dimension focuses on the speed and effectiveness of responding to student needs. When educational staff provide prompt service, are helpful, and communicate effectively, students feel more cared for and valued. This leads to a more satisfying and positive service experience. Student satisfaction increases because they perceive that educational staff not only meet but also exceed expectations in terms of response time and support. High responsiveness creates a more responsive and adaptive service environment, ultimately increasing overall student satisfaction.

Staff who are able to provide prompt service, thus reducing waiting times, make students feel that they respect their time and other needs. This is supported by their ability to promptly prepare what students need when requested. This condition makes students feel that staff support and care about their interests, thus increasing student satisfaction.

The ability of educational staff to promptly respond to student inquiries demonstrates their readiness to communicate and provide needed information. A quick response to student communications reduces confusion and uncertainty, positively impacting student satisfaction. Educational staff who are proactive in assisting students in need result in faster resolution of student needs, thus increasing student satisfaction.

The Influence of Service Quality, Assurance Dimension, on Student Satisfaction

The results of the study indicate that the assurance dimension of service quality has a positive and significant effect on student satisfaction at the Faculty of Mathematics and Natural Sciences, Yogyakarta State University. The effective contribution of the assurance dimension of service quality to student satisfaction is 16.2%. These results support the findings of other studies. Alsheyadi & Albalushi (2020); Abu-Rumman & Qawasmeh (2022); and Magasi et al. (2022).

The assurance dimension focuses on trust, security, and courtesy in service. When students trust the educational staff, feel safe during the service process, receive courteous treatment, and perceive adequate support facilities, it creates a positive and satisfying service experience. Strong assurance in this aspect creates a sense of trust and security that is important for students, thus increasing overall satisfaction. This satisfaction arises from the belief that students receive professional, safe service, and are supported by the university's concern.

Educational staff who ensure student safety during service will create a comfortable service environment. This sense of safety and comfort in providing services leads students to be more active in providing services and to ask questions or seek assistance from educational staff when they encounter problems related to their studies. This creates a positive service experience, which in turn increases student satisfaction.

Staff who provide courteous service to students create a professional impression among students. Furthermore, courteous service also creates a more pleasant atmosphere. This creates a positive impression in students' minds, thus increasing student satisfaction.

Furthermore, university support in the form of adequate facilities for the effective performance of educational staff ensures that the university is continuously striving to

improve the quality of its services. Adequate facilities enable effective and efficient service delivery, thereby gaining student trust. This trust is crucial because it creates a sense of security and reduces anxiety about the outcome or process of service delivery, thereby increasing student satisfaction.

Empathy Dimension of Service Quality on Student Satisfaction

The results of the study show that the quality of service in the empathy dimension has a positive and significant effect on student satisfaction at the Faculty of Mathematics and Natural Sciences, Yogyakarta State University. The effective contribution of empathy dimension of service quality to student satisfaction is 8.5%. The results of this study support the research findings of Alsheyadi & Albalushi (2020); Abu-Rumman & Qawasmeh (2022); and Magasi et al. (2022).

The empathy dimension focuses on the ability of educational staff to understand and respond to students' individual needs and feelings. When educational staff provide individual attention, attentive service, understand specific needs, and are accessible, students feel more valued and supported. High empathy creates a more personalized and satisfying service experience, which increases student satisfaction. By understanding and meeting students' needs in a sensitive and responsive manner, educational staff can improve service quality and overall satisfaction.

Educational staff who provide individualized attention make students feel valued and cared for as individuals, not just as part of a group. This personal approach creates closer relationships and stronger emotional bonds between students and staff. This helps students feel more comfortable and accepted in the service environment, leading to increased satisfaction.

Educational staff who provide attentive service and understand the specific needs of students, enable them to focus more on serving students, thereby reducing the possibility of errors and ensuring that student problems and needs are met properly. Understanding students' specific needs also enables educational staff to provide solutions if students experience problems related to their studies. This also becomes a positive experience in providing service, and will have a direct impact on student satisfaction.

Furthermore, one of the things that satisfies students in providing services is the ease with which they can contact educational staff through various communication channels such as phone, WhatsApp, email, and so on. Ease of communication with educational staff makes it easier for students to solve problems and meet administrative and academic needs. This increases student trust and comfort, directly impacting student satisfaction.

5. Conclusion

Based on the research results and discussion, the following conclusions can be drawn: The tangible dimension of service quality (physical form) has a positive and significant effect on student satisfaction at the Faculty of Mathematics and Natural Sciences, Yogyakarta State University. The effective contribution of the tangible dimension of service quality to student satisfaction is 6.6%. The reliability dimension of service quality has a positive and significant effect on student satisfaction at the Faculty of Mathematics and Natural Sciences, Yogyakarta State University. The effective contribution of the reliability dimension of service quality to student satisfaction is 8.5%. The responsiveness dimension of service quality has a positive and significant effect on student satisfaction at the Faculty of Mathematics and Natural Sciences, Yogyakarta State University. The effective contribution of the responsiveness dimension of service quality to student satisfaction is 9.4%. The assurance dimension of service quality has a positive and significant effect on student satisfaction at the Faculty of Mathematics and Natural Sciences, Yogyakarta State University. The effective contribution of the assurance dimension of service quality to student satisfaction is 16.2%. The empathy dimension of service quality has a positive and significant effect on student satisfaction at the Faculty of Mathematics and Natural Sciences, Yogyakarta State University. The effective contribution of the empathy dimension of service quality to student satisfaction is 8.5%.

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