Student Satisfaction toward Quality of Online Learning in Indonesian Higher Education During the Covid-19 Pandemic

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***Abstract*—This study aims to measure the level of student satisfaction with online learning services in higher education. The research method used is a survey, it is to meet the data needs on a large scale. The study population was students of higher education at the undergraduate level from 26 universities. Samples were taken randomly with due observance of campus representatives from all regions of Indonesia (N = 224). The data collection tool used an online learning satisfaction questionnaire that was developed and validated. The questionnaire contains 19 statements. The data analysis used was descriptive statistical analysis techniques. The results of data processing showed a very satisfying level of 19%, 41% satisfied, 30% dissatisfied, and 10% very dissatisfied. Several factors causing dissatisfaction include limited internet access, and low lecturer's attachment and guidance. The findings are expected to be input to higher education leaders and lecturers in order to improve the quality of online learning services according to the needs of students.**

Keywords—learners' satisfaction, online learning, Indonesian higher education, covid-19 pandemic

I. INTRODUCTION

The practice of online learning in Indonesia has started in the last few years. However, the massive implementation of online learning occurred suddenly during the Covid-19 pandemic. The tightness of the situation requires all educational institutions from preschool to tertiary level to provide online learning. Such urgency and compulsion resulted in stuttering in planning and implementation. So that it resulted in the emergence of many problems faced by both educators and students.

In general, the problem faced by lecturers who have opened classes and provided assignments and content on online learning services is the low awareness of students to access and do assignments in them. This is based on the author's experience in managing several blended courses using online learning. Our data shows that the content we provide in online learning if it is not a mandatory assignment is not accessed and studied by students. For example, at the first lecture meeting, the lecturer uploaded the RPS and SAP that had been agreed in the lecture contract, but when checked at the 7th meeting, only a few students took the initiative to download and study it. Likewise with the lecture content uploaded at the first meeting.

In addition to the problem of low initiative power, we found in several cases in the assignment process using online learning of all assignments that were given and had to be done, only 60-70% of students did assignments on time. While the rest are late and there are some who do not do their assignments. Even though UM gives freedom to lecturers if they want to use scores from online learning as a component of assessment for students' final grades. If this was done, the scores obtained by the students at the end of the semester would not have achieved good performance because of the large number of empty/unworked assignments or the scores were not optimal because they were late in doing the assignments.

Problems in the online learning innovation adaptation process occur in all countries and university units at the very beginning of its implementation. Inhibiting factors for success in implementing online learning include administrative problems, social interactions, academic skills, technical skills, student motivation, time, and support for learning, costs and internet access, and technical problems [1]. Some of the factors that cause these barriers to appear include gender, age, ethnicity, type of educational institution, self-rating of online learning information, the effectiveness of online learning, the convenience of online learning, treatment of prioritises in traditional classrooms, and the number of online learning completed.

II. LITERATURE REVIEW

The obstacles to implementing online learning from the perspective of the lecturers/facilitators include the development of online learning which takes a lot of time, effort, and money [2]. In addition, online learning is considered to reduce the basic values of face-to-face teaching and learning principles where lecturers and students can interact with one another directly. However, some lecturers also feel afraid that online classes will be used as an assessment in determining their expertise and assessing their advancement in career paths. This is in line with the review results which states that the two big problems faced by lecturers in implementing online learning include increasing workload and time to design, implement, and assess online learning, and not yet mastering the best pedagogical approach that can combine online learning with face-to-face learning [3].

Four types of barriers to online learning include technical skills in online learning, social context, online course design, and expected management as well as motivation, support, and time available to carry out online learning activities [4]. These findings are almost identical with the results of his research

[5] who conducted research in the southern part of America, it was concluded that there are four main factors that become obstacles to online learning, including interpersonal barriers to both facilitators, and users, institutional barriers such as policies, facilities, budgets. Then the barriers in the form of technology and training, as well as barriers in analyzing the costs and benefits of online learning.

Online learning cannot completely replace face-to-face learning. Online learning only has advantages in the form of easy provision and search for access to information quickly and can provide peer-to-peer learning services. However, most other competencies are better taught face-to-face. The most basic obstacle to online learning is the synergy of many parties in designing, developing, implementing, and measuring quality learning online, but it is not easy.

To produce quality online learning and can be implemented optimally some of them. Higher education institutions must conduct a blended learning adaptation needs analysis in their institutions [6]. The needs analysis must include input from all stakeholders, especially lecturers and students. Higher education institutions must have the number of lecturers who can directly use them without being trained and what percentage of lecturers need to be trained. For lecturers who need training, workload adjustments can be given so that they can prepare for online learning optimally. In addition, universities can recruit third parties who can support content development for the blended learning needs of their lecturers. So that the quality of the display, the attractiveness of the content can satisfy the expectations of users.

Barriers from the perspective of online learning service users have been reported by [7], the results of his research conducted in Russia show that in general, users are interested and challenged by online learning services. However, most of them find obstacles in implementing an effective communication process in online learning. Users hope that lecturers can design interesting, persuasive, communicative, and artistic content offerings so that even though they don't meet face to face, students still feel that there is communication with their lecturers.

From some of the findings described above, it can be concluded that the average researcher conducted an obstacle analysis from a global and general perspective. Some researchers who have revealed that from the perspective of users/students, have yet to carry out further analysis of why these obstacles arise. This study aims to explore in-depth the intrinsic issues regarding the perspective of student satisfaction with online learning.

Blended learning is a learning model that combines the advantages of traditional learning with the advantages of internet-assisted learning as a medium for channelings information [8]. Blended learning in higher education has been adopted by more than 90% of universities in the world. Blended learning provides a lot of practicality as well as challenges early in its development. Good blended learning is one that can increase the effectiveness and efficiency of an educational program instead of increasing the workload without optimal results [9].

To produce quality blended learning, several standard supporting components are required as written by [10] which states that to produce quality blended learning requires a system analysis and measurable needs analysis, clarity of development orientation, provision of network infrastructure, policy and financial support, development team reliability, the involvement of many developers, continuous training, development of design standards, content standards, implementation standards, and assessment standards for quality products developed.

The policy that requires the use of online learning services as an advantage and learning innovation in the management of learning in Indonesian universities due to the Covid-19 pandemic requires a continuous research process that aims to improve every side of it. Students as the spearhead of content users and the learning process in online learning must have their perceptions measured about the use of online learning. There are many problems that must be answered through research. Research data will be useful for correcting deficiencies found in all components of online learning, both those related to infrastructure, networks, hardware, and software. But what is no less important is the way of thinking of its users, especially students.

This study aims to identify the perceptions of student satisfaction in online learning. The results of this study can be used as input for policymakers in higher education in making policies that support the implementation of online learning on campus. In addition, the results of this study can provide input for improving online learning services.

III. METHOD

The research method used is a survey method. The survey was conducted by distributing online questionnaires to all Indonesian students. The survey was conducted for 2 months from July-August 2020. The questionnaire was distributed randomly to fellow lecturers in other universities in Indonesia. The population of this study was all active Indonesian students in undergraduate programs. This study used a random sampling method, which is a random data collection technique. The survey results obtained 224 valid and non-redundant data.

So that all data is processed and used for analysis. Of the 224 respondents consisting of 139 men and 84 women (Figure 1). The number of respondents spreads from 26 public and private universities, with 17 state universities and 9 private universities. Those from universities in Java and outside Java. In addition, the respondent's data shows that most respondents who were involved in this study were dominated by respondents' level 2 and 3 (Table 1). Likewise, in terms of the majority of ages aged 19-21 years (Table 2).

The questionnaire in this study is a data collection technique that is carried out by giving a set of questions or written statements to the respondents who were selected as the research sample to obtain information from the respondents which are certainly related to this research. The questionnaire used is a closed questionnaire designed in such a way that all alternative answers have been listed in the questionnaire so that the respondent only has to choose one of the appropriate answers.

The measuring instrument used in this research is the perception of online learning. The perception questionnaire about online learning seeks to ask for responses from respondents to provide an assessment of online learning satisfaction. The instrument consists of 4 aspects, namely satisfaction with the process, perceived self-satisfaction, satisfaction with lecturer services, and satisfaction with the

availability of supporting technology. In more detail, the items that were distributed were as follows.

Q1: Satisfaction of online learning methods compared to face-to-face methods. Q2: Satisfaction in the online learning experience. Q3: The ability to do online study assignments independently. Q4: Activeness in participating in online learning. Q5: The level of enthusiasm for online learning compared to face-to-face learning. Q6: Exploration of the benefits of using technology for learning. Q7: The need for online learning time is longer than face-to-face. Q8: Flexibility in learning time in online learning. Q9: Resources learn through online learning rather than face to face. Q10: The clarity of the lecture material in the online method. Q11: Satisfaction with lecturer guidance services. Q12: Satisfaction with lecturer performance in using learning technology. Q13: Satisfaction with the clarity of assignments given by the lecturer. Q14: Satisfaction with lecturer feedback on the work done. Q15: Ability to use technology to learn online. Q16: Ability to solve technical problems in online learning. Q17: Availability of technology support for online learning. Q18: Internet connection support is adequate for online learning. And Q19: Willingness of supporting software that is facilitated by the institution.

TABLE I. RESPONDENTS DEMOGRAPHIC BASED ON GENDER AND DEGREE

Gender		Degree			Total
	First year	*Second year*	*Third year*	*Fourth year*	
Female	21	67	39	12	139
Male	9	47	26	3	85
Total	30	114	65	15	224

TABLE II. RESPONDENTS DEMOGRAPHIC BASED ON AGE

Gender		Age			Total
	<19	*20-21*	*22-23*	*>24*	
Female	59	63	13	4	139
Male	22	46	12	5	85
Total	81	109	25	9	224

The questionnaire used in this study was developed by the researcher. Before the questionnaire is used for actual data collection, the first trials are conducted on respondents who have the same characteristics as the characteristics of the study population. The trial was conducted to determine the level of validity (Table 3, Table 4) and consistency (reliability) of research measuring instruments (Table 5), in order to obtain questions that were appropriate to be used as a measuring tool for research data collection.

TABLE III. VALIDITY INSTRUMENT

Parameters	Total
Kaiser-Meyer-Olkin Measure of Sampling Adequacy	.874
Bartlett's Test of Sphericity, Approx. Chi-Square	1.434E3
Df	171
Sig.	.000

TABLE IV. VALIDITY ALL ITEMS OF INSTRUMENT

	N	%
Case Valid	224	100
Excluded	0	0
Total	224	100

Data analysis is the most important stage in a study after all data has been collected, because in this stage the data obtained will be described until finally it can be concluded. Data analysis in this study was processed using quantitative and qualitative data analysis techniques. In the implementation of this research using the type or form of descriptive research that is carried out through data collection in the field. This analysis aims to describe the profile of the respondent or research subject and the characteristics of the research variables presented in the form of a frequency distribution graph or table. The data analysis technique used in this research is a quantitative analysis using SPSS.

TABLE V. RELIABILITY OF THE INSTRUMENT

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.873	.876	19

IV. RESULT AND DISCUSSION

To simplify the calculation, data is presented on each aspect, namely the aspects of satisfaction with the online learning process (Figure 2), perception of self-satisfaction (Figure 3), satisfaction with services and lecturer guidance (Figure 4), and satisfaction with technical support for learning (Figure 5).

A. Satisfaction Toward Learning Process

Based on the data in Figure 1, it can be explained that the respondent's satisfaction in the statement (Q1) obtained 4% data that said they were very satisfied, 24.2% said they were satisfied, 48% said they were not satisfied and 23.8 said they were very dissatisfied. This statement is a key statement because respondents are asked to respond to general satisfaction between online learning compared to satisfaction in face-to-face learning. These results are the initial benchmark that the majority of respondents claim to be more satisfied with face-to-face learning methods compared to the online learning they have experienced. This is in line with the results of research conducted by [11] who get better face-to-face learning results compared to online learning in the ethical aspects of competence. However, this is different from the research result [12] which implies that students are interested in online learning because it is seen as more dynamic and not monotonous.

In the statement number (Q2), 9.4% of respondents were very satisfied, 27.4 said they were satisfied, 51.6% said they were not satisfied and 2.2% said they were very dissatisfied. This result was even more extreme, as more than half of the participants stated that they admitted not having had a satisfying learning experience. This implies that in general there is no meaningful learning experience. In fact, the learning experience is the main target of the learning process. Good online learning is learning that is able to provide impressive learning experiences for students [13], [14]. To

achieve memorable learning, the form of assessment must be impressive, not suppressing but challenging the level of thinking of learners [15].

In the statement (Q3) information obtained 29.6% strongly agree, 52% agree, the remaining 14.8% disagree and 4% strongly disagree. Whereas in (Q4) data obtained 19.3% strongly agree, 50.7% agree, 24.2% disagree and the remaining 5.8% strongly disagree. As for the question number (Q5), it was found that 4.5% strongly agreed, 22.4% agreed, and 47.5% disagreed and 25.1% strongly disagreed. The results of the response to statement number 5 indicate the low enthusiasm of students towards online learning compared to traditional learning. This is in line with the answers in Q1 and Q2 which are both dominant in the dissatisfied category. To increase the enthusiasm of students, it needs to be addressed in several forms, including variations in the use of learning environments, learning media, and teaching materials as well as assessment in learning [16].

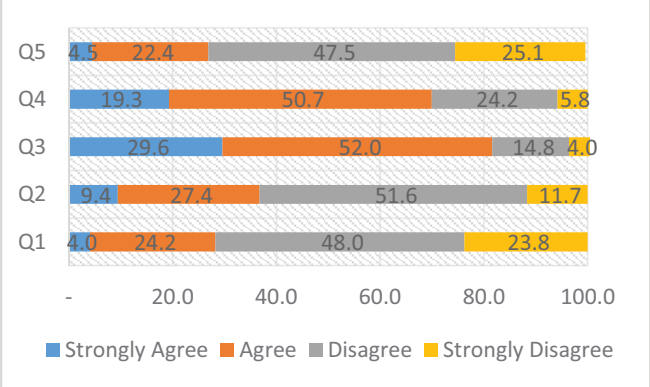

Fig. 1. Perceptions of participant satisfaction in aspects of the online learning process

B. Satisfaction Perception

In the aspect of perception there are four statements put forward, in question number (Q6) the results show that 37.7% of students admitted to strongly agreeing, 49.8 admitted that they agreed, 10.3 did not agree and 2.2 strongly disagreed. This shows that online learning provides opportunities for learners to explore the use of technology for learning. This is a positive side not only for students but also for educators. Educators benefit from being required to teach using technological devices such as laptops, smartphones, tabs. In addition, educators also use supporting applications such as video conferencing applications, graphic processing, animation, audio podcasts, chat forums, and others to support learning needs [17] – [19].

In statement number 7 (Q7) data obtained 39.5 stated strongly agree, 38.1 agree, 15.7 disagree, and 6.7 strongly disagree. These results indicate that one of the challenges of online learning is the availability of sufficient time for both students and teachers. Lecturers need more time to prepare online classes compared to face-to-face classes. Likewise, students need a special time to study in an online format. To optimize the efficiency of time usage, an online learning system management that can be interrupted by users is required [20].

As for the statement (Q8), the dominant number is found to strongly agree with 26.9% and agree on the figure of 56.1%, the remaining 13.9% disagree, and 3.1% strongly disagree. This shows that in terms of time, participants claim to have high flexibility in online learning practices. whereas in (Q9) information was obtained 18.8% admitted to strongly agreeing, 43.9% admitted that they agreed, 30.9% disagreed and 6.3% strongly disagreed. These results indicate that in terms of the availability of access to learning resources, the respondents can dominantly access more learning resources in online learning [21], [22].

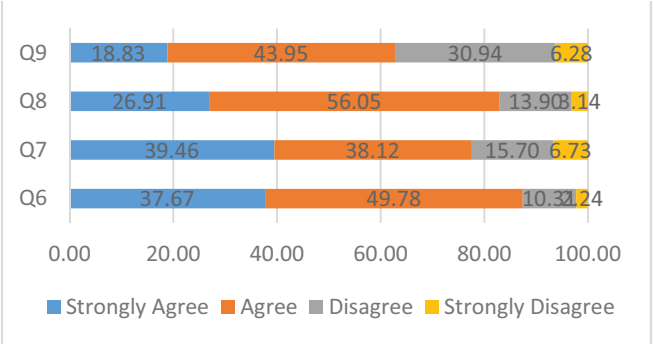

Fig. 2. Perceptions of satisfaction with online learning

C. Satisfaction Toward Lecturer

The third aspect, namely faculty facilitation in learning, there were five questions asked, namely (Q10) information was obtained that only 4% strongly agreed, 21.5% agreed, while the dominant submitted disagreed, 54.3% and 20.2% said they strongly disagreed. agree. These results indicate the respondent's dissatisfaction with lecturer services in providing material clearly. This is of course caused by many factors, one of which is the limited ability of the lecturer to support material through interesting media, it can also be caused by the fact that the lecturer gives more independent assignments without being given sufficient explanation [23].

In the statement (Q11) 7.2% admitted that they strongly agreed, 38.6% agreed, and 42.6% admitted that they did not agree, and 11.7% admitted that they strongly disagreed. This result is in line with the answer in Q10 which contains student dissatisfaction with lecturer guidance in learning. However, other findings in (Q12) obtained information that 19.3% strongly agree, 52.5% agree, 22.9% disagree and the remaining 5.4% strongly disagree. This means that in general students still recognize that lecturers are qualified in using IT for learning [24].

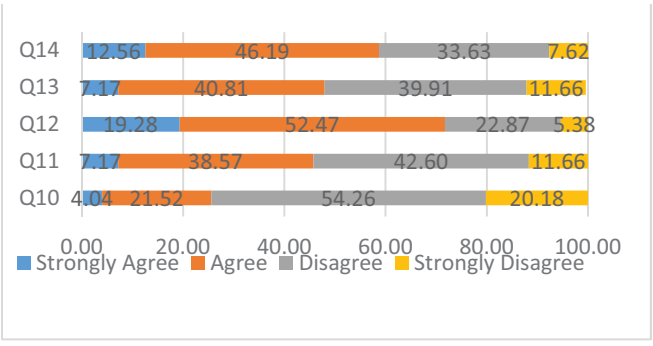

Fig. 3. Perceptions of student satisfaction with lecturer services

Meanwhile, in (Q13) information was obtained that 7.2% strongly agreed, 40.8% admitted that they agreed, 39.9% answered disagree, and 11.7 answered strongly disagreed. In general, the dominance is in the disagree category, meaning that the lecturer still has homework in terms of providing an explanation of the assignments given to students. However,

the results are slightly different from the statement in (Q14) where information was obtained that 12.6% admitted that they strongly agreed, 46.2% admitted that they agreed, 33.6% admitted that they did not agree, and the remaining 7.6% admitted that they strongly disagreed. The absence or delay in providing feedback from the lecturer affects students' perceptions of learning [23]. Ideally, lecturers provide good feedback on student assignments quickly [25].

D. Satisfaction Toward Technology Support

In the aspect of satisfaction related to technical support, it was obtained information in general that students claimed to be satisfied with the ease of using video conferencing applications, and other obstacles. This cannot be separated from the assumption that students are generation Z who already have a high attachment to all technological equipment for learning. In statement number 15 (Q15), the results obtained were 60.1% strongly agree, 33.2% agree, 15.7% disagree, and 6.7 strongly disagree. This data shows that one of the advantages of online learning is the process of getting students used to the available technology [26].

Another finding in the statement (Q16) obtained information that in general students can overcome the problems found. This means that technical difficulties can be resolved by itself. Except for the problem of limited access when it runs out. Meanwhile, in the statement (Q17), general information is obtained that the participants claim that IT has helped students overcome any challenges and obstacles they face. This cannot be separated from the students' digital literacy skills [27].

However, the results differed from the declaration (Q18). In general, students acknowledged that there were limitations in terms of adequate internet access, more than 50% of students expressed disagreement. This is very likely to happen to students who are in isolated areas and to families with economic limitations in providing internet access. Meanwhile, the response to the statement (Q19) was quite encouraging because the students admitted that universities provide good support regarding the software to be needed to support learning activities. Although this answer still requires verification of the form of support provided.

Figure 5 provides general information about respondents' satisfaction with online learning practices. the overall data on average shows that they are satisfied with some aspects and indicators, but some are not.

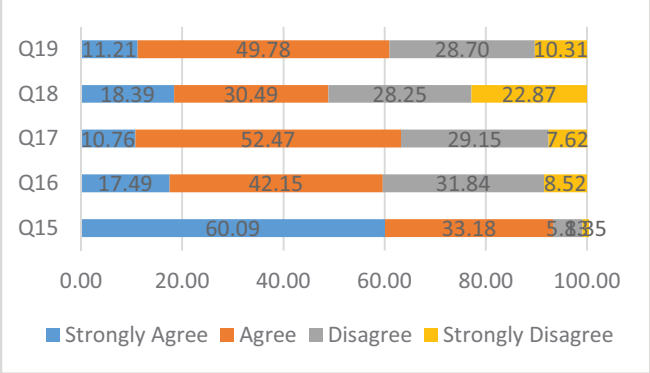

Fig. 4. Perceptions of student satisfaction with technology support

Another thing that must be of mutual concern is the need for an umbrella policy regarding online learning standards in national universities. These standards must be adopted and modified by each university to suit the situation and the conditions and infrastructure support it has. Even further, each unit in each department must make a minimum standard [29]. This can be monitored under the control of the quality assurance group in each unit. Satisfaction monitoring must be a priority because it involves the responsibility and obligation of learning program services that satisfy students [12]. Don't let the university leadership be ridiculed by students on social media, as happened in the last few months. Due to the low quality of online learning services provided, the cost of the study is not adjusted. Eventually, the policymakers made a breakthrough by reducing study costs, providing assistance with internet packages and deferring payment of study fees.

The results of this study illustrate an interesting finding for materials to improve the quality of online learning in higher education. Policymakers from the central government in the Ministry of Education and Culture, then the Directorate General of Higher Education, university leaders, deans, department heads, study program heads, and lecturers need to follow the findings regarding student satisfaction with online learning services it develops. It would be better if each small unit carried out monitoring and evaluation at all stages of online learning activities [28]. Starting from learning planning, implementation, evaluation, and reporting. It is intended that all learning processes run as they should.

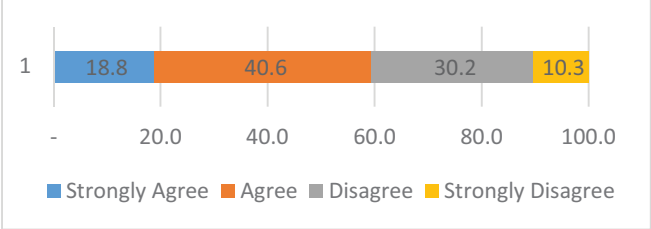

Fig. 5. Average student satisfaction with online learning

Such flexibility and agility is required in a difficult situation like today. We all know that those affected by the Covid-19 pandemic are not only about changing learning service issues, but are more concerned with their relation to the community economy. So that the higher education policy should not make parents and students drop out of college because there is no leniency in terms of tuition fees.

In addition, to improve the quality of online learning, the support of the learning management system needs to be improved. The learning system must be supported by an adaptive learning system. in addition, it is also necessary to add learning facilities that can personalize students. This means that the system is able to provide personalized learning services to users [30]. It would be even better if you added dashboard learning analytics that were popped up on the students' pages as feedback [31]. In terms of learning content, lecturers need to develop micro content that is easily understood by students [32].

V. CONCLUSION

Based on the results of the discussion, it can be concluded that in general the respondents said they were satisfied (60%) with online learning services in higher education. However, 40% expressed dissatisfaction, especially on items Q1, Q2, Q5, Q10 and Q11 with the lowest level of satisfaction emphasized on online learning service items, unclear material, and lack of lecturer guidance in online learning practices. Some of the reasons for the dissatisfaction of respondents

were caused by factors of limited access, instability of the management system learning network used, unclear material, and assignments from lecturers, low patterns of guidance from lecturers, and lack of constructive feedback on student work. The results of this study provide input to policymakers to provide internet access assistance and improve the quality of online learning services. In addition, lecturers are required to be able to provide interactive learning services, and provide intensive guidance, and feedback that builds students' learning motivation.

ACKNOWLEDGMENT

Our sincere thanks are addressed to the PNBP Faculty of Education, State University of Malang, Ministry of Education and Culture (Kemendikbud) Republic of Indonesia, for the financial support under the contract No. 30.3.10/UN32.1/LT/ 2020.

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