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The Effect of Lecturer Competence in Online Learning Methods on Student College Satisfaction During the Pandemic

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Abstract. The first quarter of 2020 has been a difficult time for the global community. The Coronavirus (COVID-19) pandemic is affecting various sectors, one of which is education. Physical distancing policies allow learning to be done remotely. Based on the conditions of distance learning, this study wanted to determine the effect of lecturer co mpetence on student satisfaction during a pandemic. The data was collected by distributing questionnaires to college students using purpose sampling. Data analysis using SEM-PLS method. The results showed that social and personality competence had an effect on student satisfaction, but lecturers' pedagogical and professional competence had no effect on student satisfaction during the pandemic. This can be shown from the inadequate infrastructure of distance learning. Lecturers who are needed now are lecturers who have the power of creativity in delivering material so that the delivery of material to students is more interesting and varied in online learning.

Keywords: COVID-19, online teaching and learning, lecturer's competence, satisfaction.

1 Introduction

The first quarter of 2020 has been a difficult time for the global community. The Coronavirus (COVID-19) pandemic that has hit the world is affecting various sectors. This epidemic has caused sluggishness in various sectors such as financial, trade, tourism, sociocultural, economic growth, as well as the world of education. The emergence of the first case of Covid-19 in Indonesia in mid-March 2020, the government immediately issued a policy in the world of education, namely temporarily eliminating face-to-face learning and replacing it with online learning, both at the secondary school level and at the university level. COVID-19 has had a serious impact on students, instructors and educational organizations around the globe [1]. During the Covid-19 era, all universities held distance learning. Distance learning where students learn through online classes using online learning applications. The rapid development of information technology, especially the internet, opens up opportunities for the development of better information services in educational institutions. The unexpected change in online learning becomes a measure of the

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agility of an organization [2], with some academic institutions primarily focusing on the transfer of educational content to the digital world and not specifically on online teaching and delivery methods. However, compared to the conventional lecture tradition, the choice of online learning is not easy to do. First, it requires device readiness and of course the internet data package is still managed independently. Second, not all lecturers and students are ready to operate the online learning system, including preparing digital materials. Learning from outside the campus is certainly a part that has also been mandated by the Minister of Education and Culture, Nadiem Makarim, to realize Independent Learning and an Independent Campus. Indeed, when viewed from its objectives, Regulation of the Minister of Education and Culture No.3 of 2020 concerning National Higher Education Standards focuses more on changing the campus accreditation and debureaucratization system. This option allows lecturers to be 'free to teach' so that they can focus more on transferring knowledge and skills to students. This policy can also encourage students to be more innovative and creative in learning.

Educators or lecturers, are demanded not only as a transfer of knowledge, but they also act as agents of enlightenment. The idealism of educators, to borrow a term from Socrates, is eutike, who helps students bring forth innovation and knowledge. Based on [3] explains that based on the perceptions of students taking samples at UKI Toraja regarding online learning in the midst of the COVID-19 pandemic. The study explained that lecturers should pay attention to the condition of students in terms of financial ability, the availability of internet access for students, and the selection of online learning applications. Highlights the selection of learning applicationsso that the application of the online learning system can runoptimally. This shows that lecturers must have the ability to upgrade their knowledge of applications used in online learning. Therefore lecturer competence is one of the factors that can influence students in understanding and mastering lessons. In line with this, the failure to learn should not simply blame the students because it is possible for lecturers to be less successful in providing motivation that can arouse student enthusiasm and activities to learn.

Competent lecturers are generally seen from how far the lecturers master the material and the lecturer can apply the appropriate learning model for the material being studied. According to [4] competent educators are educators who have the skills to provide reinforcement, the skills to ask questions, the skills to vary, the skills to explain, and the skills to open and close lessons. According to [5] mentions competence as ability, the capacity of an individual to do various tasks in a job. Individual ability is formed from two sets of factors, intellectual and physical ability. Intellectual ability is the ability to carry out mental activities while physical ability is the ability to perform tasks that require stamina, speed, strength and skill.

Today's higher education in Indonesia has entered a new era, a competitive era that is ful of challenges due to rapid changes. Challenges and intense competition in the global era demand quality human resources who are competent in answering every problem and at the same time taking advantage of existing opportunities [6]. Based on Law No. 14 of 2005 concerning Teachers and Lecturers, and according to the Regulation of the Minister of National Education of the Republic of Indonesia No. 16 of 2007 concerning Academic Qualification Standards and Competencies of Teachers and Lecturers there are four competencies that must be possessed as a teacher and lecturer in carrying out tasks. The four competencies include pedagogic, professional, personality, and social. The four competencies are integrated in the performance of teachers and lecturers. Previous research has proven that competence is related to business performance and individual performance in business development. In the context of this research, it is the performance of the university. Based on [7] it is explained that pedagogical competence affects performance, and professional competence does not affect teacher performance. In addition, personality competence has a significant effect on teacher performance [8]. The quality of the resulting

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student graduates is reflected in the results of learning achievement that are correlated with the competencies possessed by lecturers who provide teaching both pedagogical competence, professional competence, personal competence and social competence [9]. However, universities often face problems in obtaining human resources, especially lecturers with high quality standards, this is one of the factors for the lack of quality of existing education. Several other factors, (1) inadequate quality of facilities and infrastructure (2) low quality standards of educators (3) low educator welfare (4) student achievement both academically and outside academically is still lacking (5) opportunities to get education are not yet evenly distributed (6) low level of correlation between education and needs (7) high cost of education [10]. Lecturer performance is considered to bethe cause of the low quality of students in their learning outcomes [11]. Lecturers are still not maximal in delivering material or do not provide an interesting learning process.

A lecturer must be able to convey learning in an attractive manner, be able to motivate students to be active in seeking knowledge, increase their skills and knowledge, become partners who synergize in exchanging information and train to have good communication skills. Lecturers must be able to increase positive competitivenessso that students are able to compete in the job market and not become a social burden for the nation and state. The competence of lecturers does not only focuson scientific competences and professionalism, but also must have good personal and social competences, where these competencies are often ignored or considered not very important. This research was conducted to analyze the correlation of pedagogic competence, professional competence, personality competence and social competence of lecturers in the Fa culty of Economics and Business UMSU towards the achievement of student learning outcomes of the Faculty of Economics and Business UMSU [12]. The results indicate that the image of higher education has a significant effect on student satisfaction, lecturer competence has a significant effect on student satisfaction, university image has no effect on student loyalty, lecturer competence has no effect on student loyalty, student satisfaction has a significant effect on student loyalty, and student satisfaction mediates. Lack of access and reliable internet connections hinders the process of online learning especially for those who are living in rural as well as marginalized communities of Pakistan [13]. Lack of proper interaction with instructors is another major concern associated with online learning. Additionally, any content of the online course are usually discussed with the relevant course instructor by email, which requires response time. Virtual classes cannot be of interest to students who are tactile learners. Conventional classroom socialization is another major missing in online learning. Students only communicate with their fellows digitally and never see fellow students in person, and thus the real-time sharing of ideas, knowledge and information is partially missing from the digital learning world [14].

Based on the description above, that currently the learning method has changed from conventional to online. In addition, there is a need for competent lecturers so that they can create a more interesting and interactive lecture atmosphere, so this study aimsto determine the effect of pedagogical, social, professional and personal competences on student satisfaction in learning methods during the pandemic.

2 Methods

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2.1 Research Variable and Hypothesis

This study aimed to determine the effect of the competence of lecturers in relation to the student college satisfaction on online learning method, that has been implemented during the pandemic COVID-19. The variables observed were pedagogical competence, social competence, professional competence and personal competence of the teaching lecturers which were categorized as independent variables and student satisfaction in the learning process provided by the lecturer during the pandemic period as the dependent variable. The conceptual model in this study is shown in **Figure 1**.

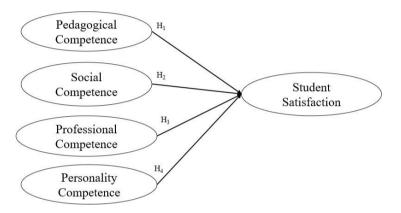


Fig.1. Research Model

Based on the research model developed, the researcher puts forward several hypotheses that will form the basis of this research.

Pedagogical competence and student satisfaction. According to [15] research showed that the overall competence of lecturers is highly correlated with student satisfaction. The most relevant finding is that good pedagogical competence is very important for students. This is related to perceived satisfaction with distance education. Focusing on training and faculty development for those teaching in distance education should be geared towards developing effective instructional strategies. Teachers with good knowledge of pedagogical content help lecturers to determine appropriate methods of delivering lessons in class and ensure high understanding among students [16]. Pedagogical competencewas found to be statistically insignificant because of the interactive learning taking place in the institution [17]. As education moves towards digitization and a wider variety of learning platforms are available to support the delivery of knowledge, this has the potential to explain how insignificant Pedagogy is. In addition, the current trend of distance learning and virtual classes also supports these findings. This is also supported by the shift in generation preferences and the availability of existing alternatives. Based on research that has been conducted by previous researchers, this study will propose a hypothesis that reflects a causal relationship as follows:

H₁: Pedagogical competence has an effecton student college satisfaction.

Social competence and student satisfaction. According to [18] to increase interaction between students, one of the things lecturers can do is to provide a value of participation. In addition, lecturers are required to be able to understand the diverse nature of students and involve them in

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online discussions to encourage more interaction. Lecturers also have to do several other things in supporting the learning process, for example providing a structure for course content, providing feedback on achievement, stimulating student motivation to process and reflect on content, and helping them [19]. Based on research that has been conducted by previous researchers, this study will propose a hypothesis that reflects a causal relationship as follows: H2: Socialcompetence has an effecton student college satisfaction.

Professional competence and student satisfaction. According to [20], there are three factors, such as interaction with lecturers and active discussion among course participants and clarity of course design, which significantly affect student satisfaction and perceptions of learning. This opinion is supported by research by [21] who argue that lecture notes, direct interaction between lecturers and students, and facilitation of lecturer discourse are highly correlated with the level of student satisfaction. Meanwhile, [22] suggested that students prefer a consistent subject structure so that navigation doesnot change from one course to another. Based on research that has been conducted by previous researchers, this study will propose a hypothesis that reflects a causal relationship as follows:

H3: Professional competence has an effect on student college satisfaction.

Personality competence and student satisfaction. Measurement of the professionalism of the lecturers can be seen from the qualifications and performance as evidenced by the mastery of academic, personality, social and professional competence as a unit. Professionalism must be possessed by all lecturers to carry out teaching assignments and build an academic atmosphere that is conducive to the relationship between lecturers and students. Higher ed ucation institutions are obliged to create a system that seeks to develop lecturers' abilities. The relationship between educators and students can optimize the potential of students, access to learning, and increase student motivation [23]. Based on research that has been conducted by previous researchers, this study will propose a hypothesis that reflects a causal relationship as follows:

H4: Personality competence has an effecton student college satisfaction

2.2 Data Analysis

This research uses quantitative methods. The methodology used for data collection is through surveys. Source of data obtained from distributing questionnaires to the object of research, students in college. The questionnaire was arranged based on the model contained in the research hypothesis. Furthermore, data analysis used the Structural Equation Model (SEM) with the Partial Least Square (PLS) approach to meet the research objectives. The statistical tool used to analyze with PLS is SmartPLS 2.0. In accordance with the research model described, there are four latent variables, pedagogical competence (X1) which is measured using thirteen indicators, social competence (X2) as measured by seven indicators, professional competence (X3), and measured by five indicators and personality competence (X4) as measured by five indicators. Furthermore, the student satisfaction variable is measured using twelve indicators. The student satisfaction variable shows the student's view of the learning methodsgiven during this pandemic.

PLS is a variance-based SEM analysis that can perform measurement model testing and structural model testing simultaneously. The following are the stages of the analysis:

- Make a descriptive analysis by segmenting the respondent's profile basedon ages, majoring filed, student enrollment years, education level and student domicile at the time of this pandemic.
- 2. Creating a path diagram that explains the relationship between latent variables and their indicators, structural and measurement models.
- 3. Estimating parameters for the model being made.
- 4. Evaluating the goodness of fit on the model that has been built [24]. Evaluating the measurement model for the reflective constructs by convergent validity, discriminant

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validity and composite reliability. The measurement convergent validity using the loading factor parameter, average variance extracted (AVE), and communality. The loading factor value>0.50 to indicate a valid construct. The AVE value must be>0.50 to indicate a valid construct [20]. Discriminant validity, to see the differences between variables, by assessing the square root of each latent variable with the correlation between other latent variables in the model. The construct is declared valid if cross loading value is>0.50. Composite reliability, an indicator that measures the consistency of latent variables. The variable is said to have good reliability if it has composite reliability>0.7.

5. Evaluating Structural Models. The goodness of fit model is measured by the R-Square of endogenous latent variables with the same interpretation as regression. Furthermore, Q- Square predictive relevance for structural models measures the goodness of the observed values generated by the model and its parameter estimates. Q-Square calculation is done with the following formula is the R-square of endogenous latent variables in the equation model. The quantity of Q2 has a value in the range 0 <Q2 <1, the closer to 1 (one), the better the model.

PLS does not have a normality assumption for data distribution, so PLS uses a nonparametric test to determine the significance level of the coefficient path. The hypothesis used is that H0 there is no relationship between variables, while H1 there is a relationship between variables. Next, look at the t-statistics value generated by the bootstrapping algorithm on SmartPLS 2.0. The criterion for rejection of the initial hypothesis is that the significance level is below 5% or the t-value exceeds the critical value, 1.96.

3 Results and Discussion

3.1 Descriptive Analysis

Respondent Profile. The following data is a description of respondents based on the results of a research survey. Descriptive analysis begins with the profile of respondents, which is used to determine the characteristics of individuals who are the object of research. Profiles of respondents in this study consisted of grouping based on age, majoring field, enrollment year, education level and place of domicile during a pandemic. Based on the results of the survey, it was found that the students who filled out the questionnaire were around the age of 17 to 19 years around 66.67%. While those around the age of 20 to 22 years are 27.53% and those around the age of 23 to 25 are 0.06%. Grouping based on the majoring field, the Qualitative field is around 73.91% and the Quantitative field is around 26.09%. Student enrollment years in 2017 are around 0.03%, 2018 is around 24.64%, 2019 is around 14.5% and 2020 is around 57.97%. The education level of respondents was dominated in diploma around 56.52%, while the rest from undergraduate education around 43,48%. Respondents in this study were dominated by students who chose to return to their hometowns rather than remain in the campus environment. Students who remain in the campus environment are also dominated by students who live around the campus. The results of the descriptive analysis show that students mostly choose to return to their hometowns to undergo learning during the pandemic period. Respondent profiles also indicate that the questionnaire in this study was filled in by college students who did not have a formal education degree at the beginning, still at the basic stage. This shows that the respondents do not come from students who have permanent jobs to support the online learning process.

Validity test. Validity testing is carried out to test the measuring instrument or questionnaire used is valid or invalid using product moment correlation. The validity test in this study was carried out with a one shot method where the questionnaire was given once to the respondents and

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then the data were analyzed. If the question is declared valid then it is used for further discussion and if the question is not valid then the question can be ignored or excluded from the questionnaire. Decision making is valid whether or not the indicators are based on the r-count value compared to the r-table value or the probability value (p-value). The indicator is declared valid if the correlation coefficient (r-count)> r-table or the p-value <0.05. The r-table for n=30 (df = 28) is 0.361. The results of the validity test show that all indicators are valid.

Reliability test

The reliability test used the SPSS facility with Cronbach's Alpha statistical test. The following table shows the results of reliability testing for all indicators on the dimensions used in the study which are acceptable, as well as for the overall level of measurement as stated by [26] that a construct or variable is declared reliable if the Cronbach's alpha valueis greater than 0.60. The analysis results on **Table 1** show that the variables used in this study are reliable.

| Variable | Cronbach's Alpha | n of Items |
|---------------------------------------|------------------|------------|
| X1.Pedagogical Competence of | 0.943 | 12 |
| Lecturer | | |
| X2.Social Competence of Lecturer | 0.910 | 7 |
| X3.Professional Competence of | 0.871 | 5 |
| Lecturer | | |
| X4.Personality Competence of Lecturer | 0.935 | 5 |
| Y.Student College Satisfaction | 0.874 | 12 |

Table 1. Questionnaire reliability test

3.2 Results of Analysis

Evaluation of measurement models. This study examines four variables competencies are categorized as independent variables, pedagogical, personality competence, professional competence and social competence, and student college satisfaction as dependent variable. Evaluation of the measurement model (outter model) if there are indicators that have a loading factor value <0.5, a recalculation of the model must be carried out so that the loading factor of all reflective indicators is>0.5 as a criterion for the validity test of convergent latent constructs [25]. In addition, the model requirement has good validity if each latent variable with a reflective indicator has AVE> 0.5. After going through several iterations, the final measurement model is obtained in **Figure 2**.

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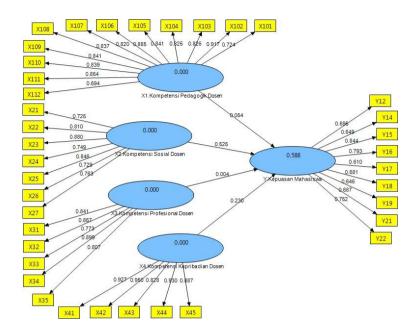


Fig. 2. Loading factor in the final measurement model.

Furthermore, the model requirement has good validity if each latent variable with a reflective indicator has AVE>0.5. The results of the analysis shown in Table 1 show that the AVE value of each latent variable has a value of> 0.5 and it can be said that the PLS model meets the requirements of good convergent validity.

Table 2. Average variance extraxted (AVE), composite reliability and Cronbach's Alpha

| | AVE | Composite Reliability | Cronbach's Alpha |
|---|----------------|--------------------------|---------------------|
| X1.Pedagogical Competence | 0.684 | 0.963 | 0.957 |
| X2.Social Competence | 0.621 | 0.919 | 0.897 |
| X3.Professional Competence | 0.703 | 0.922 | 0.893 |
| X4.Personality Competence Y.Student Satisfaction | 0.820 0.504 | 0.958 0.901 | 0.945 0.876 |

The next measurement is the reliability test of the model used to prove the accuracy, consistency and accuracy of the instrument in measuring constructs. Reliability test by measuring composite reliability and Cronbach's Alpha for latent variables that have a value >0.7 is said to be reliable. The results of the study are based on Table 2, showing that all latent constructs have good, accurate and consistent reliability because they meet the requirements with the composite reliability value and the Cronbach's Alpha is more than 0.7 for each latent construct. The discriminant validity testing by the principle that the measure (manifest variables) of different constructs should not be highly correlated [26]. Based on the results of the analysis, it shows that the cross loading value between indicators on the latent variable as a whole is more than

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the cross loading value for other latent variables, it can be said that the model has met the requirements for discriminant validity.

Evaluation of Structural Models. The bootstrapping results in **Table 3** show that X2 (Lecturer Social Competence) and X4 (Lecturer Personality Competence) have a significant effect on Y (Student Satisfaction) with a value of t-statistic>t-table (1.96) at the 5% real level. Meanwhile, X1 (Lecturer Pedagogic Competence) and X3 (Lecturer Professional Competence) have no effect on Y (Student Satisfaction) because the t-statistic value \leq t-table (1.96) at the 5% real level.

| | Path Coefficient | T Statistics | R-square |
|---|------------------|---------------------|----------|
| X1.Pedagogical Competence -> Y.Student Satisfaction | 0.054 | 0.828 ^{tn} | 0.588 |
| X2.Social Competence -> Y. Student Satisfaction | 0.525 | 6.575* | |
| X3.Professional Competence -> Y. Student Satisfaction | 0.004 | 0.065 ^{tn} | |
| X4.Personality Competence -> Y. Student Satisfaction | 0.230 | 3.921* | |

Table 3. Path coefficient and T-statistic values between latent variables.

Notes: *)T-statistics > T-table (1.96) a significant effect on the level 5%; tn) the effect not real

Variable X2 (Social Competence) has an effect on Y (Student Satisfaction) of 0.240, which means that the better X2 (Social Competence) will increase Y (Student Satisfaction). In addition, X4 (Personality Competence) has an effect on Y (Student Satisfaction) of 0.295, which means that the better X4 (Lecturer Personality Competence) will further increase Y (Student Satisfaction). The structural model Y (Student Satisfaction) produces an R-square value of 58.8% which means that the diversity of Y (Student Satisfaction) which can be explained by the model is 58.8% while the remaining 41.2% is explained by other factors outside the model.

3.3 Discussion

Based on the results of statistical analysis as discussed in the previous section that social and personality competence have an effect on student satisfaction. However, Lecturer professional and pedagogic competence has no effect on student satisfaction in online learning during this pandemic. The results of this analysis show that during the pandemic, students do not require lecturers who are smart and know everything about their knowledge. The thing that was highlighted by students was how the lecturer gave the delivery method to students in providing material so that it could be better understood not only a lecturer that can give the material but also reminded students of accessing the learning method. Social and personality competences are needed during online learning. This is because the demand to be in front of the screen in doing all the activities that are usually done face-to-face requires a struggle to feel comfortable and continue to want to learn in different situations and conditions. Furthermore, a lecturer must have the ability to understand the diverse nature of students and involve them in online discussions to encourage more interaction.

According to [20], the clarity of the lecturer in explaining the material and providing notes during lectures has a significant effect on student satisfaction and learning perceptions. Swanet al. [22] further explained that students prefer a consistent flow of lecture notes and course structure. The concept put forward by [27] is that competence is a characteristic that underlies a person related to the effectiveness of individual performance at work. Meanwhile, Mc Cleland (1993) states that competence is the basis of personal characteristics which are a determining factor for the success or failure of a person in doing a job in certain situations. The rapid development of information technology demands that lecturers must also be able to adapt to the various teaching applications that are emerging today. This is related to social and personality competences where lecturers are not

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only concerned with their knowledge, but also understand developments that also relate to current conditions.

The implementation of training in improving the quality and competence of lecturers by arranging training that introduces various interesting applications in teaching online learning is an alternative that can be done. The development of Internet network technology has changed the paradigm in obtaining information and communicating, which is no longer limited by the dimensions of space and time. Through the existence of the internet, they can get the information they need wherever and whenever they want [29]. This study shows that the ability of lecturers to interact with students can affect student satisfaction in receiving material during this pandemic. One of them is by following the learning trend and understanding the situation and condition of students which are currently closely related to the development of information technology and infrastructure which will be the key to successful online learning.

4 Conclussion

Based on the results of analysis and discussion, it shows the effect of the competence of lecturers on student satisfaction in implementing online learning methods during the pandemic as follows the pedagogical and professional competence of the lecturers does not affect student satisfaction in the online learning method. However, social and personality competence of the lecturers affects student satisfaction in the online learning method. Personality competence of teachers with regard to the independence of action, work ethic, as an educator, noble character, steadiness and stability acted by virtue of norms, the benefits to the students who have contributed positively as elements forming personal competence. Social competence is the competence associated with the ability to communicate, ability to get along with students, felow teachers and education staff, parents or guardians of the students and the community, can provide pretty good support in the form of social skills of teachers. Lecturers are not only had to make new applications in the implementation of online learning. However, lecturers can use one or more applications to make the delivery of material to students more interesting and varied in online learning. This will relate to the situation of online learning during the pandemic.

The results of this study are related to the concept of [27] which states that competence is an underlying characteristic of a person related to the effectiveness of individual performance on the job. Lecturers who always upgrade themselves by learning new things in adapting to current conditions do depend on the motivation and performance of each.

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