

Preferences Selection of Students of Accounting University in North Sumatera on the Use of Statistical Data Processing Applications by Getting Easiness to Get Applications as a Moderator

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Abstract. This study aims to determine the selection preferences of students of Accounting University in North Sumatera on the use of statistical data processing applications by getting easiness to get application as a moderator. Variable that is used is the easiness to use applications, able to read many types of data, and unlimited sample usage as independent variable, meanwhile the dependent variable that is used is selection preferences of students of Accounting University in North Sumatera on the use of statistical data processing applications, and the easiness in getting accounting application as a moderating variable. Data of this study are obtained by using questionnaire. Questionnaires that can be further processed as many as 203 questionnaires. The hypotheses are analyzed by using Structural Equation Model (SEM) with the help of SmartPLS software 3.0. The results that are obtained are the easiness in using application and the easiness in getting the application do not affect the selections of Accounting Students on the use of statistical data processing applications. The construct of able to read many types of data positively affect students' selections on the use of statistical data processing applications. Construct of unlimited sample usage positively affect students' selections on the use of statistical data processing applications. Able to read many data and unlimited sample usage do not affect students' selections on the use of statistical data processing applications.

Keywords: Easiness on the use, Able to Read Data, Statistical Data Processing Applications.

1. Introduction

The development of science is inseparable from the important role of statistics science, because statistics science is a science that studies how to collect data, process data, analysis data and present the data so that becomes useful information for the development of science. In its development, the statistics science is increasingly required by many branches of science both exact and social (Chance, 2012). In the beginning statistics science is used more often in the exact science department but as the statistics science developed, it also began to play an important role in the social sciences branches, such as economics. Economics is a branch of science that first uses quantitative methods in its analysis. It is now the most widely techniques that are used for mathematics and statistics among social sciences (Waseem & Zarif, 2012). Statistics science that now plays an important role is also supported by the development of technology so that emerges various statistical data processing applications. The emergence of this statistical data processing program becomes the easiness for the users without reducing the quality of output that is produced. The technological revolution that occurred has an impact on

teaching and decision-making systems. Increasingly high use of statistical applications including changes in content (change of content), change of Pedagogy and Change in Course format (Chance, 2002, Prictor, 2002, Garfield, 2003, Young, 2003, Wilson, 2003, Palocsay & Stevens, 2008, Musa and Othman, 2012). For the students of Accounting statistical data processing is a science that is needed because in some lessons that are learned by students of Accounting will use statistical data processing applications, especially on the process of making tasks. The need for statistical data processing applications is very high. There are many statistical data processing applications that are quite popular among students of accounting such as SPSS, AMOS, R-Statistic, SmartPLS, Eviews, S-Plus, SAS, Minitab and others. In using such applications, some of the students do not really understand and still reluctant to learn how to manage statistical data processing applications. In this case, there are several factors that become the selections of accounting students in choosing statistical data processing application to be studied and used as a data processing application in accordance with the problems that will be examined. The main selection of accounting students of statistical data processing applications such as the easiness on the use of applications, statistics data processing applications that can read many types of data, and unlimited sample usage in processing.

The easiness of using applications become the preference of accounting students in selecting statistical data processing applications because the easiness in using applications will greatly help students to quickly understand the process of data processing and how to interpret the results of processed data (Barcikowski & Robey, 1984, Frank and Friedman, 1993, Cohen, 1996, Yilmaz, 1996, Boone & Scantlebury, 2006, Al-Hawary, 2010, and Martirosyan, 2015). Applications that can read many data is also a preference for accounting students because in the use of statistical data processing applications cannot be used in every study. Each of the statistical tools must meet various assumptions and must be in accordance with the problems that are studied. There are several studies namely qualitative and quantitative that requires different interpretive results of research between quantitative and qualitative. Therefore, applications that can read a lot of data will greatly help accounting students.

Meanwhile, the preferences of accounting students in the selection of statistical data processing applications is the application that is unlimited on the sample in its processing. In some statistical data processing applications some of them have limit toward the sample to be processed, the sample restrictions will affect the resulting output. Therefore statistical data processing applications are capable of processing the sample data in the large size that will be able to produce processed data more accurate (Goodman, 2019). In this research moderating variables that are used are the easiness in getting applications, which will moderate the selections of accounting student variables for the use of statistical data processing applications. Some research related to this research include Dell'Omodarme & Valle (2006) using Excel and R statistic applications. The results show that these statistical tools meet the requirements for ease of operation and compliance with research problems. Warner (2019) uses the Excel statistical approach as a basis for statistical applications. Garfield (1998), McLaren (2004), Regenwetter et al (2006), Franke (2019) and Rabbani, (2019) used statistical applications for infernce applications in solving several research cases. Seabold & Perktold (2010) analyzed Econometric statistical models with Python applications. This is due to the ease factor which

is the determining variable in the use of interest.

2. Literature Review

2.1. Technolocial Adaptive Theory

Adaptive Theory is one's self and social maturity in performing general daily activities according to age and related to the culture of the group (Ziogurs and Buckland, 1998 and Glushchenko, 2021). Meanwhile, according to Coccia (2019), the Adaptive Behavior is the level of ability/effectiveness of a person in meeting the standards of personal independence & social responsibility expected for the age and culture of the group. According to Franke et al (2019) adaptive behavior is adaptive behavior at the very level referring to a subject's typically exhibited competency in adjustment to the culture as expected for age level, in or out of school. To be adaptive in behavior presupposes that one possesses the potential to be adaptive, but the degree and quality of actual adaptive behavior are not identical with potential. Adaptive behavior is a form of a person's ability related to: an independent function to achieve success in carrying out tasks in accordance with the age and expectations of the surrounding community (Muda et al., 2019 and Pu et al., 2021). Like cleaning yourself, using the toilet, eating, dressing, traveling and so on and personal responsibility. As well as being able to monitor his personal behavior and be able to accept all risks/responsibilities for making a decision: reflected in decision making and behavior selection. Social responsibilities such as accepting responsibility as a member of a group and carrying out behavior that is in line with the expectations of the group/community: social adjustment to the environment, emotional development, economic independence, responsibility as a citizen.

3. Method

This research was conducted at the Faculty of Economics and Business University of North Sumatra. This research was included into quantitative research so that it used numerical data. The data in this study were obtained by using questionnaire instrument with the number of questionnaires that could be processed as much as 209 questionnaires. The population in this study was all students of Accounting University of North Sumatra who had taken the subject of statistics research and methodology research. Variables that were used in this research were easiness on the use of application, able to read many types of data, and unlimited sample usage as independent variable (X), while the dependent variables that were used were the selection of student of accounting University of North Sumatera on the use of statistical data processing application and easiness in getting accounting application as a moderating variable (Z). In this research, data analysis technique that was used was SEM analysis method (Structural Equation Model) with Partial Least Square (PLS) measurement. The structural equation model was a statistical technique that allowed testing of relatively complex set relations that were simultaneously or persistently. Meanwhile, the measurement of PLS could be used on any type of data scale (nominal, ordinal, interval, ratio) as well as more flexible assumption terms. PLS was also used to measure the relation of each indicator with its construct. In addition, in the PLS bootstrapping test was also done on structural models that were outer models and inner models. The hypothesis test was presented based on the research objectives. The level of confidence that was used was 95%, so the level of precision or inaccuracy limit of $(\alpha) = 5\% =$

0.05. Then generate t-table of 1.96 (Hair et al, 2019), so that if t count is greater than 1.96 then H_0 is accepted and if t count is smaller than 1.96 then H_0 is rejected.

4. Result and Discussion

4.1 Results of Data Test Instruments

4.1.1 Measurement Test (Outer Model)

Outer models are assessed by looking at convergent validity (the amount of loading factor for each construct). Loading factor above 0.70 is recommended, however the loading factor 0.50-0.60 can still be in the model as long as the model is still in development stage (Hair, 2019). From the data that has been processed then the results given are as follows in Table 1 :

Table 1. The Loading Factor

	Able to Read Many Types of Data	Easiness In Operating Applications	Easiness of Getting Application	Effect 1	Effect 2	Effect 3	<i>Unlimited sample usage</i>	The Selection of Accounting Student of University of North Sumatera on the Use of Statistical Data Processing Application
Able to Read Many Types of Data *					0,910			
Easiness In Operating Applications * Easiness of Getting Application				0,893				
<i>Unlimited sample usage</i> * Easiness of Getting Application						0,952		
X11		0,471						
X12		0,847						
X13		0,787						
X21	0,606							
X22	0,841							
X23	0,802							

X24	0,520						
X41						0,716	
X42						0,699	
X43						0,830	
Y11							0,792
Y12							0,658
Y13							0,558
Z11			0,968				
Z12			-0,206				
Z13			-0,158				

Sources : PLS Result (2021).

The Table 1 above shows that the value of the variations on each construct. There are several indicators that show 0.7 and 0.7 values of 0.7. Construct of easiness on the use X11 (0.606) and X24 (0,520) and other construct has not been reliable or has not fulfilled the convergent validity. Meanwhile, for the other construct that each indicator shows the value of loading factor greater than 0.70 can be said to be valid or have met the value of convergent validity. Here is the diagram of the loading factor of each indicator in the research model:

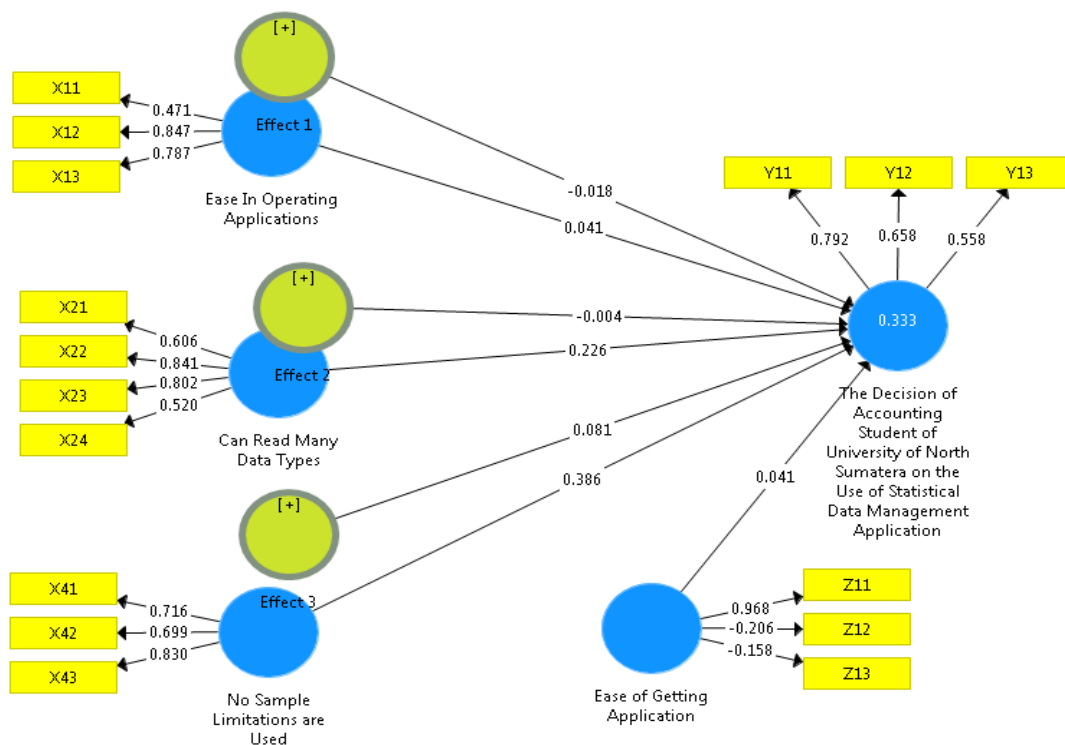


Figure 1. The value of Loading Factor

a. Reliability Test

Reliability test is carried out by looking at indicators that measure each construct, the indicator is said reliable if its value is not under 0.50. Reliability test is seen from the value of composite

reliability and cronbach alpha (Hair, 2019). The results that can be obtained are:

Table 2. The Composite Ratability

	<i>Composite Ratability</i>
Able to Read Many Types of Data	0,792
Easiness In Operating Applications	0,755
Easiness of Getting Application	0,155
Effect 1_	1,000
Effect 2_	1,000
Effect 3_	1,000
<i>Unlimited sample usage</i>	0,794
The Selection of Accounting Student of University of North Sumatera on the Use of Statistical Data Processing Application	0,712

Sources : PLS Result (2021).

Table 3. The Cronbach's Alpha

	<i>Cronbach's Alpha</i>
<i>Able to Read Many Types of Data</i>	0,654
<i>Easiness In Operating Applications</i>	0,606
<i>Easiness of Getting Application</i>	0,305
<i>Effect 1_</i>	1,000
<i>Effect 2_</i>	1,000
<i>Effect 3_</i>	1,000
<i>Unlimited sample usage</i>	0,627
<i>The Selection of Accounting Student of University of North Sumatera on the Use of Statistical Data Processing Application</i>	0,400

Sources : PLS Result (2021).

Value of composite reliability for all exogenous and endogenous construct is all very reliable because the value is above 0.70, except in the easiness of getting application that shows the value of 0.155 means that the construct has not met the reliability. If it is seen from the value of Cronbac's Alpha, then there is a value below 0.70 that is on all exogenous and endogenous constructs, except in the interaction constructs either the effects 1,2, and 3, which show a value greater than 0.70.

3.1.2 Test of Structural Model (Inner Model). After the model that has been estimated meets the Outer Model criteria, the next test is structured model (Inner model). Inner model wants to see the relationship between construct and significance value and R-Square value. Here is the R-Square value of the construct.

Table 4. The R-Square

	R Square
The Selection of Student of Accounting University of North Sumatera on the Use of Statistical Data Processing Application	0,333

Sources : PLS Result (2021).

From the table above can be seen that the value of R-Square for the variable of selection of accounting university students of North Sumatera on the use of statistical data processing application shows the results of 0.333, which means that the variable as the dependent variable selection of accounting university students of North Sumatera on the use of statistical data processing application can be explained by the construct of easiness in operating applications, able to read many types of data, unlimited sample usage and easiness of getting application and its interaction of 33.3%.

4.1.3 Hypothesis Test

Table 5. The Path Coefficients (Mean, STDEV, T-Values)

	(O)	(M)	STDEV)	O/STDEV	P Values
Able to Read Many Types of Data -> The Selection of Accounting University Student of North Sumatera on the Use of Statistical Data Processing Application	0,226	0,232	0,079	2,855	0,004
Easiness In Operating Applications -> The Selection of Accounting University Student of North Sumatera on the Use of Statistical Data Processing Application	0,041	0,050	0,063	0,647	0,518
Easiness of Getting Application -> The Selection of Accounting University Student of North Sumatera on the Use of Statistical Data Processing Application	0,041	0,024	0,095	0,430	0,668
Effect 1_ -> The Selection of Accounting University Student of North Sumatera on the Use of Statistical Data Processing Application	-0,018	-0,013	0,074	0,243	0,808
Effect 2_ -> The Selection of Accounting University Student of North Sumatera on the Use of Statistical Data Processing	-0,004	-0,050	0,106	0,034	0,973

Application					
Effect 3_ -> The Selection of Accounting University Student of North Sumatera on the Use of Statistical Data Processing Application	0,081	0,038	0,104	0,778	0,437
Unlimited sample usage -> The Selection of Accounting University Student of North Sumatera on the Use of Statistical Data Processing Application	0,386	0,389	0,086	4,481	0,000

Sources : PLS Result (2021).

Relation test between construct indicate that easiness on the use of application has no effect on the selection of USU accounting student on use of statistical data processing applications. Construct of able to read many types of data positively affect the selection of accounting student on use of statistical data processing applications with the parameter coefficient value of 0.226 and significant at 5%. Construct of unlimited sample usage positively affects the selection of accounting student on use of statistical data processing applications with parameter coefficient value of 0.386 and significant at 5%. The easiness in operating applications has no effect on the selection of accounting student on use of statistical data processing applications. Meanwhile, the interaction of construct of easiness on the use of applications, able to read many types of data, and unlimited sample usage has no effect on the selection of accounting student on use of statistical data processing applications. So it can be concluded that there is no moderation relation or easiness on getting application is not a moderation construct. Here is a t-Statistic value chart based on output with SmartPLS3.0:

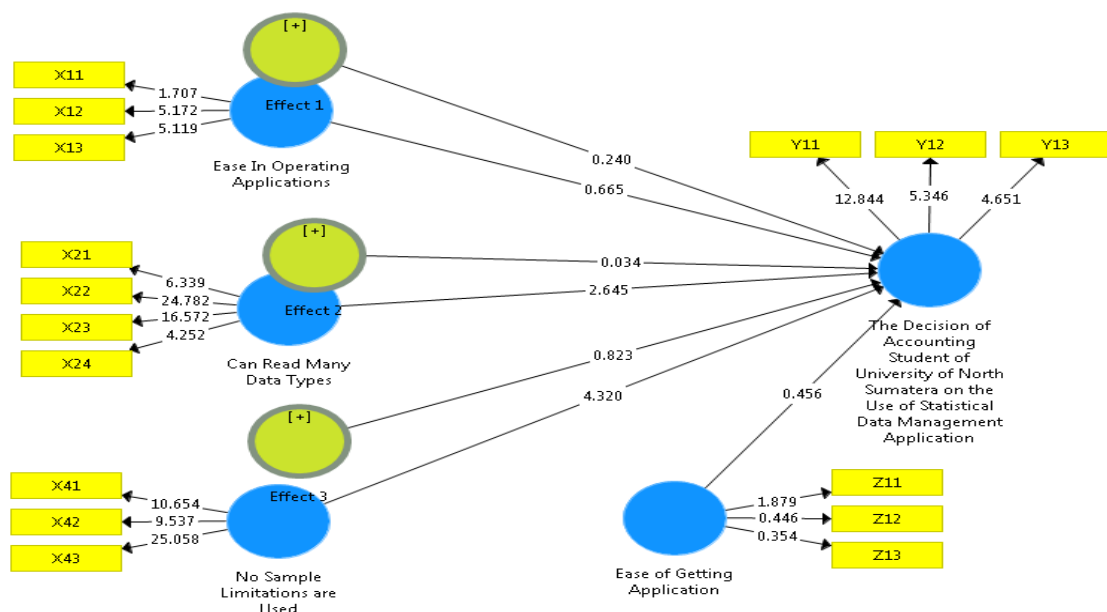


Figure 3. The Output Bootstrapping

5. Conclusions and Suggestions

5.1. Conclusions

1. Easiness on the use of application has no effect on students' selection on use of statistical data processing application.
2. Construct of able to read many types of data positively affect the students' selection on use of statistical data processing applications.
3. Construct of unlimited sample usage positively affects the students' selection on use of statistical data processing applications.
4. Construct of easiness of getting application does not affect the students' selection on use of statistical data processing applications. Meanwhile, the interaction of construct of the easiness on the use of application,
5. Able to read many types of data, and unlimited sample usage does not affect the students' selection on use of statistical data processing applications.
6. So it can be concluded that there is no moderation relation or easiness on getting application is not a moderation construct.

5.2 Suggestions

1. From the results of research, has been concluded that there are some variables, which have no significant effect. For further research can be expected to add or use other variables that are still associated with the preference of accounting student on the use of statistical data processing applications.
2. In this study, the role of lecturers is also very important, especially lecturers who provide subjects of statistics in order to further improve students' understanding on statistical data processing applications.

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