FACTORS AFFECTING MASTERY OF INFORMATION AND COMMUNICATION TECHNOLOGY

FAKTOR-FAKTOR YANG MEMPENGARUHI PENGUASAAN TEKNOLOGI INFORMASI DAN KOMUNIKASI

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Abstrack: Factors Affecting Mastery Of Information And Communication Technology. This study aims to determine the effect of: (1) Computer Self Efficacy (CSE) on Mastery of Information Technology and Communication (ICT), (2) Personal Innovativeness (PI) on Mastery of ICT, (3) Learning Environment on Mastery of ICT, and (4) CSE, PI, and Learning Environment simultaneously on Mastery of ICT of Accounting Education Students at Faculty of Economics, Yogyakarta State University (YSU). Data collection technique was carried out using online questionnaire. Population in this study was Accounting Education Students FE, YSU 2014-2015. There were 114 respondents involved by purposive sampling technique. The research results show that (1) CSE positively affects on Mastery of ICT, (2) PI positively affects on Mastery of ICT, (3) Learning Environment positively affects on Mastery of ICT, and (4) CSE, PI, and Learning Environment simultaneously affects on Mastery of ICT at Accounting Education Students, FE YSU.

Keywords: Mastery of Information and Communication Technology, Computer Self Efficacy, Personal Innovativeness, Learning Environment

Abstrak: Faktor-faktor Yang Mempengaruhi Penguasaan Teknologi Informasi Dan Komunikasi. *Penelitian ini bertujuan untuk mengetahui pengaruh: (1)* Computer Self Efficacy (CSE) *terhadap Penguasaan Teknologi Informasi dan Komunikasi (TIK), (2)* Personal Innovativeness (PI) *terhadap Penguasaan TIK, (3) Lingkungan Belajar terhadap Penguasaan TIK, (4)* CSE, PI*, dan Lingkungan Belajar secara bersama-sama terhadap Penguasaan TIK pada Mahasiswa Pendidikan Akuntansi Fakultas Ekonomi Universitas Negeri Yogyakarta. Teknik pengumpulan data dilakukan dengan metode pengumpulan data dokumentasi dan kuesioner. Populasi dalam penelitian ini adalah mahasiswa S1 Pendidikan Akuntansi FE UNY 2014-2015. Sampel sebanyak 114 responden yang ditentukan dengan teknik purposive sampling. Hasil penelitian menunjukkan bahwa terdapat pengaruh (1) positif dan signifikan* CSE *terhadap Penguasaan TIK, (2) positif dan signifikan* PI *terhadap Penguasaan TIK, (3) positif dan signifikan Lingkungan Belajar terhadap Penguasaan TIK, (4)* CSE, PI, *& Lingkungan Belajar memiliki pengaruh secara bersama-sama terhadap Penguasaan TIK pada Mahasiswa Pendidikan Akuntansi FE, UNY.*

Kata Kunci: *Penguasaan Teknologi Informasi dan Komunikasi,* Computer Self Efficacy, Personal Innovativeness, *Lingkungan Belajar*

INTRODUCTION

In this modern era, information and communication technology has developed rapidly, and has helped various human works. In addition, information and communication technologies can also be utilized for professional and educational purposes. It affects almost all aspects of

human life, including education, health, finance, recreation, entertainment, government, jobs, and careers.

Information and communication technology (ICT) is already acknowleged as a field of study. It does not only address the issue of information technology and computers, but also discusses communication technology/ telecommunications. Furthermore, ICT studies various fields such as e-Learning, information management, information technology, computer technology, management information systems, internet, telecommunication technology, computer network technology, computer network security system, and the data base system. Thus, the information technology (IT) is a part of ICT science in its implementation.

To measure the development index of information and communication technology (ICT), ICT Development Index (IDI) is used as an indicator which allows people to compare the development of ICT among countries. In 2017, Indonesia's IDI was 4.33 and is currently ranked 111st globally. On the other hand, Indonesia is still quite left behind compared to neighboring countries, for example, Singapore who ranked 18th with IDI of 8.05 and Malaysia with IDI value of 6.38 who ranked 63rd globally.

Currently, the role of technology in teaching is very important because of the numerous benefits arising from information and communication technology (Stosic, 2015:111). In education, information and communication technology has been commonly utilized in teaching and learning activities at school as well as lectures. For example, with the use of e-Learning instructional media or electronic-based learning, Yogyakarta State University (YSU) has developed e-Learning media named Be-Smart version 2. Be-Smart version 2 is an e-Learning application developed as a mean of learning to meet the needs of the growing information and communication technology.

In this digital era where development of information and communication technology is advancing rapidly, every individual is required to master how to use computer or gadget. There are several agencies as well as individuals who depend on the sophistication of information and communication technology. The three main components that affect the information and communication technology are computer, communication, and skill (know-how). Computer is used as a way to improve effectiveness and efficacy because it can save costs and human resources (HR).

In professional environment, most companies have leveraged their sophistication of information and communication technologies. These companies use several applications or computer software or software applications, especially in the areas of finance and accounting. In finance and accounting, there are actually a wide variety of computer accounting software commonly used by companies such as Zahir, Accurate, MYOB, and others.

As prospective educators on the accounting field in Vocational High School *(SMA/SMK)*, it is mandatory for the students of accounting education study program to master a wide range of computer software in accounting. On computer accounting subject, students focuses on accounting software i.e. Microsoft Excel and MYOB (Mind Your Own Business).

Furthermore, in computer accounting subject, there are several subjects in accounting education study program that can enhance students' mastery or expertise in the field of information and communication technologies. Those subjects/courses are *Simulasi Digital*, *Media Pembelajaran dan Teknologi Informasi*, and *Komputer Akuntansi* which are considered quite important for students of accounting education department. Before getting computer accounting courses, these students are required to take applicable computer basics course named digital simulation (*simulasi digital)*. The number of computer accounting course (*mata kuliah komputer akuntansi)* is considered less when it is compared to those in manual accounting courses *(mata kuliah Akuntansi Manual),* for example, manual accounting courses *(mata kuliah Akuntansi Manual)* weighted 3 credits, whereas computer accounting course (*mata kuliah komputer akuntansi)* only weighted 2 credits. This difference makes accounting education students more attuned to the accounting logging manually.

In undergoing the computer accounting course (*mata kuliah komputer akuntansi),* students should be competent/ be able to master the basics of the computer in order to operate an accounting software. For students who are not accustomed to operate a computer, then there will be a feeling of shock and stiff when using the computer. In addition, students also can have anxiety experience when using the computer. The onset of computer anxiety among students, students will have an impact on skills to operate computer accounting software. In addition, computer anxiety, there is also the ability to master computer or computer self-efficacy that can also affect the skills to operate computer accounting.

Personal innovativeness is a feature that reflects someone try any new technology (Suardikha, 2012:35). Someone who has high personal innovativeness tend to dare to try new things. Meanwhile, people who have low levels of personal innovativeness slower to try to accept the new technology. For example, in the areas of Accounting, exactly in accounting information systems (AIS) user, the user needs to pay attention to personal innovativeness to support the performance of process data and transactions in order to generate information useful for planning, controlling, and operating a business.

Mastery of information and communications technology of Accounting Education students can not be separated from external factors, such as learning environment. Learning environment are elements that come from outside of the student. Learning environment is composed of the infrastructure, learning methods, safety, and comfort. Learning environment in the campus of Yogyakarta State University (YSU), among others, the central library and faculty libraries, Internet Services Student (LIM UNY), and classrooms. In each classroom, has provided additional facilities such as projectors to support teaching and learning in a university environment.

Researchers preliminary observations showed that some students of Accounting Education FE YSU still has not mastered MYOB (accounting software) properly. They are also quite keep up with technology. Most students of Accounting Education FE YSU admitted if the learning environment at Yogyakarta State University (YSU) is comfortable.

Based on the factors that effect the mastery of information and communication technology in Accounting Education student in the preliminary observations, the researchers interested in conducting further research into factors that effect the mastery of information and communication technology in Accounting Education student, Faculty of Economics YSU with the main focus on computer self-efficacy, personal innovativeness, and learning environment under the title “The Effect of Computer Self Efficacy, Personal Innovativeness, and Learning Environment toward Mastery of Information and Communication Technology. (Case Study on Accounting Education Students, Faculty of Economics, Yogyakarta State University 2014-2015)”.

RESEARCH METHODS

Type of Research

This research is a causal comparative research. This study aims to examine the effect of independent variable

Computer Self Efficacy (X_1), Personal Innovativeness (X_2), and Learning Environment (X_3), to the dependent variable that is Mastery of Information and Communication Technology (Y). The approach used in this study is a quantitative approach, because the research data used in the form of numbers and using statistics to analyze (Sugiyono, 2015: 13).

Time and Place of Research

This research was conducted in Faculty of Economics, Yogyakarta State University located in Jalan Colombo No. 1, Karangmalang, Caturtunggal, Depok, Sleman. in Accounting Education Students 2014-2015, from July to October 2018.

Population and Sample

The population in this research was Accounting Education Students 2014 and 2015 with a total of 159 students, while the sample was 114 students.

Data Collection Technique

The data collection techniques used in this research was online questionnaire (Google Form). According to Arikunto (2013: 194) questionnaires are a number of written statements used to obtain information from respondents in the sense of reports about his personality, or things he knows. Online questionnaires in this research are used to obtain data on Computer Self Efficacy (X_1), Personal Innovativeness (X_2), Learning Environment (X_3), and Mastery of Information and Communication Technology (Y).

Data, Instrument, and Analysis Technique

Based on the trial test result of research instrument, it showed that the number of items valid for Computer Self Efficacy was 8 items, Personal Innovativeness was 9 items, and Learning Environment was 14 items. The reliability of research instrument was obtained that the value of Cronbach's Alpha of Computer Self Efficacy was 0.600, Personal Innovativeness was 0.667, and Learning Environment was 0.733.

Data analysis techniques used in this research were descriptive analysis, prerequisite analysis test, and hypotheses test. Descriptive analysis was used to analyze the data obtained from the respondents through questionnaires that have been filled by them then presented in the form of data description of each variable. Description of data included mean, median, mode, frequency distribution table, variable trend table, and pie chart.

Prerequisites analysis test consist of Linearity test, Multicoliniearity Test, and Heteroscedasticity Test. Hypothesis testing

used in this research was multiple regression. The multiple regression was used for hypotheses testing.

RESEARCH RESULT AND DISCUSSION

Descriptive Analysis

Table 1. Mean, Median, Mode, Deviation Standard, Maximum Score, Minimum Score of each variables

Description	Y	X_1	X_2	X_3
Mean	11.39	23.54	23.31	40.87
Median	11.34	23.5	23	41
Mode	11.67	24	23	41
Std. Deviation	0.54	3.15	3.74	5.11
Maximum	12.00	31	36	56
Minimum	9.66	12	16	27

Source: Primary Data Processed

a) Mastery of Information and Communication Technology

Based on the table 1, it obtained mean of 11.39, median of 11.34, mode of 11.67, and standard deviation of 0.54. The number of interval class using formula K = 1+3,3 log 114 was equal 7.78 rounded up to 8. Class range was (12.00-9.66)+1=3.34 rounded to 3, and interval class range obtained by 3/8=0.375 rounded to 0.30.

b) Computer Self Efficacy

Based on the table 1, it obtained mean of 23.54, median of 23.5, mode of 24, and standard deviation of 3.15. The number of interval class using formula K = 1+3,3 log 114 was equal 7.78 rounded up to 8. Class range was (31-12)+1=20, and interval class range obtained by 20/8=2.5 rounded up to 3.

c) Personal Innovativeness

Based on the table 1, it obtained mean of 23.31, median of 23, mode of 23, and standard deviation of 3.74. The number of interval class using formula K = 1+3,3 log 114 was equal 7.78 rounded up to 8. Class range was (36-16)+1=20, and interval class range obtained by 21/8=2.6 rounded up to 3.

d) Learning Environment

Based on the table 1, it obtained mean of 40.87, median of 41, mode of 41, and standard deviation of 5.11. The number of interval class using formula K = 1+3,3 log 114 was equal 7.78 rounded up to 8. Class range was (56-27)+1=30, and interval class range obtained by 30/8=3.75 rounded up to 4.

Research Hypothesis Test

Table 2. Multiple Linear Regression Test Result

Variables	B	t_{count}	Sig t
(Constant)	2.989		
X_1	0.011	2.884	0.005
X_2	0.008	2.688	0.008
X_3	0.008	3.477	0.001
F count	17.655		

Sig F	0.000
R^2	0.325

Based on the calculation of linear regression over the results obtained regression equation as follows:

$$Y = 2.989 + 0.011\ X_1 + 0.008\ X_2 + 0.008\ X_3 + e$$

Constant value 2.989 means if there is no variable Computer Self Efficacy, Personal Innovativeness, and Learning Environment that affect Mastery of Information and Communication Technology, then Mastery of Information and Communication Technology amounted 2,989 units.

The regression coefficient Computer Self Efficacy 0.011, meaning that if the variable Computer Self Efficacy increased by one unit then the Mastery of Information and Communication Technology will increase by 0.011 assuming other variables remain.

Regression coefficient value Personal Innovativeness 0.008, meaning that if a Personal Innovativeness variable increased by one unit then the Mastery of Information and Communication Technology will increase by 0.008 assuming other variables remain.

Learning Environment regression coefficient of 0.008, meaning that if the Learning Environment variable increases by one unit then the Mastery of Information and Communication Technology will be increased by 0.008 assuming other variables remain.

a) Partial Hypothesis Testing (t test)

According to the table 2, it can be seen the results of significance testing Computer Self Efficacy (X_1) variable indicate that there is a probability value of 0.005 ($0.005 \leq 0.05$). The regression coefficient has a positive value and the value of significance (p) < 0.05 then the Hypothesis 1 that states "Computer Self Efficacy positively affects on Mastery of Information and Communication Technology" acceptable. The higher of students' Computer Self Efficacy, the higher Mastery of Information and Communication Technology.

Results Personal Innovativeness (X_2) variable significance testing indicates that there is probability value of 0.008 ($0.008 \leq 0.05$). The regression coefficient has a positive value and the value of significance (p) < 0.05 then Hypothesis 2 that states "Personal Innovativeness positively affects on Mastery of Information and Communication Technology", acceptable. The higher students' Personal Innovativeness, the higher

students' Mastery of Information Technology and Communications.

Similarly it can be seen, the results of significance testing Learning Environment (X_3) variable indicate that there is a probability value of 0.001 (0.001 ≤ 0.05). The regression coefficient has a positive value and the value of significance (p) < 0.05 then Hypothesis 3, which states "Learning Environment positively affects on Mastery of Information and Communication Technology", acceptable. The better the learning environment of students, the higher in Mastery of Information and Communication Technology.

b) Simultaneous Testing (F test)

Simultaneous Test is used to determine whether the independent variable is the Computer Self Efficacy, Personal Innovativeness, and Learning Environment simultaneously affect the dependent variable is the Mastery of Information and Communication Technology. From F test results in table 2 obtained F_{count} equal 17.655 and the probability of 0.000. Due to the significant value of F < 5% (0.000 < 0.05), the Hypothesis 4, which states "Computer Self Efficacy, Personal Innovativeness, and Learning Environment simultaneously affect Mastery of Information and Communication Technology", acceptable. This implies that the variable Computer Self Efficacy, Personal Innovativeness, and Learning Environment simultaneously affects on Mastery of Information and Communication Technology.

c) Coefficient of Determination (R^2)

The coefficient of determination used to indicate the percentage of independent variables (Computer Self Efficacy, Personal Innovativeness, and Learning Environment) is jointly explained variance dependent variable (Mastery of Information and Communication Technology). Based on Table 2, the coefficient of determination (R^2) = 0.325 or 32,5%, meaning that the independent variables jointly affect the dependent variable remaining 32.5%. While 67.5% is influenced by other variables not included in this research model.

CONCLUSION AND SUGGESTION

Conclusion

Based on the analysis and discussion, it can be concluded as follows:

a) Computer Self Efficacy positively affects toward Mastery of Information and Communication Technology, Accounting Education Students Faculty

of Economics, YSU 2014-2015. It is shown by regression coefficient 0.011, t_{count} of 2.884 with a significance value of 0.005.

b) Personal Innovativeness positively affects toward Mastery of Information and Communication Technology, Accounting Education Students Faculty of Economics, YSU 2014-2015. It is shown by with regression coefficient of 0.008, t_{count} 2.688 with a significance value of 0.008.

c) Learning Environment positively affects toward Mastery of Information and Communication Technology, Accounting Education Students Faculty of Economics, YSU 2014-2015. It is shown by regression coefficient of 0.008, t_{count} 3.477 with a significance value of 0.001.

d) Computer Self Efficacy, Personal Innovativeness, and Learning Environment simultaneously affect toward Mastery of Information and Communication Technology. It is shown by regression coefficient 0.000, t_{count} 17.655 with a significance value of 0.000.

Suggestion

Based on the conclusions and results, then submitted suggestions as follows:

a) For Further Research

(1) Further research may take the population or sample with a broader scope so that the research results become more accurate.

(2) Further research may measure Mastery of Information and Communication Technology not only by using the value of subjects related to information and communication technology (ICT), but through performance measurement in the practice of the use of ICT.

b) For Institution/University

(1) Personal Innovativeness tendency of Accounting Education students is in the Early Majority category (52.64%) while the innovator category is 6.14%. Therefore, it is expected that the university, especially the department introduce the use of the latest technology in the field of accounting education and business. For example, the application of current accounting software, FinTech (financial technology), implementation of Big Data in the business, and the use of technology based learning media (Lectora, Augmented Reality, and Android Apps).

(2) Learning Environment tendency in the Faculty of Economics (FE) UNY is in the category quite well

with the frequency of 81 students (71.05%). Therefore, the faculty can increase the facilities to support the learning process, such as optimizing the use of the digital library, adding to a collection of books related to information and communication technologies in the field of accounting, and increase the places for learning and discussion jointly with WiFi so that the Learning Environment in FE YSU is improved.

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