The Effect of Technology Acceptance Model and Internet Usage Factor to Financial Literacy of Active User of Financial Technology Application among Millennial Generation

Livia Marsha Sarengat, Putu Anom Mahadwartha
Universitas Surabaya
e-mail: jeanlivia07@gmail.com, anom@staff.ubaya.ac.id

Abstratc: This experiment examined the effect of Technology Acceptance Model which generated as perceived usefulness and perceived ease of use, and internet usage factor to financial literacy of active user of financial technology application among millennial generation. This experiment is basic research with using quantitative analysis, data of this experiment from results of respondent's answer in questionnaire and processed with SEM-PLS technique analysis. The result of this experiment will be used for next curriculum development in the future in connected field.

Keywords: financial literacy, financial technology, technology acceptance model (TAM), internet usage, SEM-PLS

INTRODUCTION

The era of digitalization in industry 4.0, various forms of technological innovation have begun to emerge, one of which is in the financial sector that created financial technology (fintech). The fintech industry continues to grow, as can be seen from the increasing number of licensed fintech startups in Indonesia. Tracxn data states that in the ASEAN region, 20% of the number of fintech startup companies come from Indonesia, this indicates the large development of the fintech industry in Indonesia.

The development of fintech in Indonesia is also supported by the availability of a high number of working age population. Indonesia as one of the most populous countries in the world has a population dominated by productive ages ranging from 15–64 years which reached more than 60% based on the Central Statistics Agency in 2019, so that fintech has a fairly large market potential in Indonesia.

The growing fintech has a large enough opportunity to expand the market in Indonesia due to the large number of people in Indonesia who do not yet have access to banking services (underbanked/unbanked). According to the Cambridge Center of Alternative Finance, most fintech companies in Indonesia target the population who do not have access to a bank account/underbanked consisting of both individuals and Small and Medium Enterprises (SMEs).

The Indonesia Stock Exchange (IDX) noted that in 2019, the demographics of investors were dominated by the millennial generation as much as 44.62%. Millennial generation, or commonly referred to as generation Y, is a generation born in the 1980s-early 2000s. The millennial generation has competence in the use of information and communication technology that is superior and is familiar with the world of social media. It can be seen from IDX data that the millennial generation has a great interest in investing using fintech.

Based on the National Financial Literacy Survey (SNLIK) conducted by OJK in 2019, the financial literacy index of Indonesian citizens

reached 38.3% and the financial inclusion index was 76.19%. This figure shows an increase in results compared to 2016, which had a financial literacy index of 29.7% and a financial inclusion index of 67.8%. OJK and the Indonesian government continue to strive so that the level of financial literacy in Indonesia continues to develop in order to improve domestic economic welfare.

The development of fintech in Indonesia is increasing every year, especially among the millennial generation who dominate the market. The use of financial services in fintech is expected to help increase awareness of the importance of the influence of financial literacy in the community of active fintech users. This study will analyze the influence of the Technology Acceptance Model factor which consists of perceived usefulness and perceived ease of use, as well as the internet usage factor in the use of fintech applications on the level of financial literacy of fintech application users, especially among the millennial generation in the city of Surabaya. The financial services in fintech in question are the use of digital payment features, online loans, and online investments.

RESEARCH METHOD

This type of research is a basic research with a causal problem formulation that has a causal relationship. This study will analyze the influence of TAM (Technology Acceptance Model) and internet usage factors on the level of financial literacy of active users of fintech applications among the millennial generation. The data in this study used primary data sources which were taken directly by distributing questionnaires to fintech user respondents who had millennial generation profiles (birth years ranging from 1980 to 2000) and domiciled in the city of Surabaya. The data that has been obtained from the respondents' answers to the questionnaire are then statistically processed using the SEM-PLS technique with the help of SPSS 26 and SmartPLS 3 applications.

The number of samples to be taken is a small part of the population which is expected to be able to represent the data needed in this study. The sampling technique used simple random sampling technique, which took samples from the population of the millennial generation who live in the city of Surabaya. Based on the calculation of the Slovin formula, the minimum number of samples needed in this study was 399 people.

The questionnaire compiled will try to collect data that can measure variables perceived usefulness, perceived ease of use, internet usage, fintech usage, and financial literacy with each measuring instrument on each indicator. The measuring instrument is adopted and compiled based on previous research journals by converting it into a point statement with answers using a Likert scale of 1 to 5 (strongly agree, agree, neutral, disagree, strongly disagree).

After going through the process of collecting respondent data from the distributed survey, it is continued to the data tabulation process in Microsoft Excel software and saved in the form of a .csv (Comma Delimited) file. The research diagram model is then compiled in the SmartPLS application, after which the respondent's data in the form of a .csv file is inputted into the research diagram model. Furthermore, the SEM-PLS analysis test was carried out with the help of the PLS Algorithm calculation feature to see the results. The SEM-PLS analysis test consists of 3 stages, the Outer Model test, the Inner Model test, and the Goodness of Fit test.

The Outer Model test consists of validity and reliability tests to determine whether the data results are valid and reliable. The validity test in this study used the Convergent Validity and Discriminant Validity Test. The reliability test in this study used Cronbach's Alpha and Composite reliability methods.

The Inner Model analysis test in this study uses a method by evaluating the R Square value and the path coefficient to assess the level of relations and significance between variables in the research model.

Goodness of Fit (GoF) test to indicate the performance of the relationship between the inner model and the outer model. The GoF index is calculated with the help of a formula consisting of the average value of R Square and Communalities/AVE, the greater the GoF index number, the better the results.

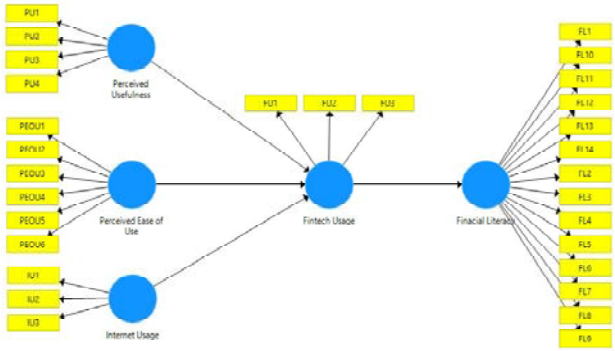

Figure 1 Research diagram

The following equation will be applied in this study in accordance with the research diagram above.

$$PUn = \lambda nPU\ \delta n \quad (1)$$

$$PEOUn = \lambda nPEOU + \delta n \quad (2)$$

$$IUn = \lambda nIU + \delta n \quad (3)$$

$$FUn = \lambda nFU + \delta n \quad (4)$$

$$FLn = \lambda nFL + \varepsilon n \quad (5)$$

$$FU = \gamma 11\xi 1 + \gamma 12\xi 1 + \gamma 13\xi 1 + \xi 1 \quad (6)$$

$$FL = \beta 21\xi 2 + \xi 2 \quad (7)$$

Notes:
PU : Perceived Usefulness
PEOU : Perceived Ease of Use
IU : Internet Usage
FU : Fintech Usage
FL: Financial Literacy

RESULTS AND DISCUSSION

After going through the process of collecting data through a questionnaire instrument, a number of 403 respondents were collected who could meet the respondent's criteria. The number of respondents who had collected met the target minimum sample size of 399 people. Based on the recap of the results of the questionnaire data, the results of the SEM-PLS statistical test were collected as follows.

Validity and Reliability Test

Based on the results of the data analysis test of this study, the majority of the outer loadings values meet the requirements above 0.70, while the 6 data variables still range from 0.50 to 0.60 which can still be considered quite valid.

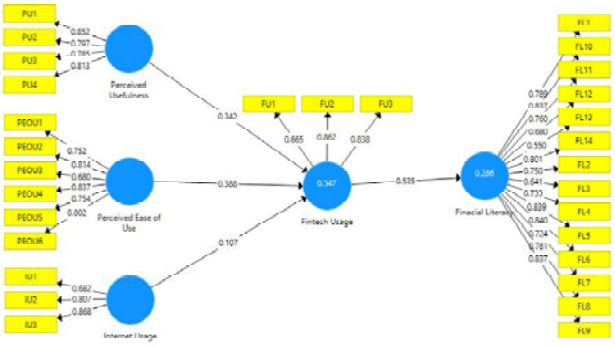

Figure 2 Results of Model Research

Based on the results of data analysis in Table 1, all variables in this study have an AVE

value> 0.50 so that it can be concluded from the Convergent Validity test as a whole declared valid.

Table 1 AVE Results

Variabel	AVE
Finacial Literacy	0.578
Fintech Usage	0.629
Internet Usage	0.623
Perceived Ease of Use	0.601
Perceived Usefulness	0.659

Based on the results of cross loading on the processed data in Table 2, the results for the five variables are valid and meet the criteria for discriminant validity.

Table 2 Cross Loadings Results

	FL	FU	IU	PEOU	PU
FL1	**0.789**	0.485	0.270	0.412	0.324
FL10	**0.837**	0.381	0.151	0.315	0.257
FL11	**0.760**	0.432	0.156	0.316	0.276
FL12	**0.680**	0.410	0.275	0.333	0.272
FL13	**0.550**	0.351	0.227	0.273	0.270
FL14	**0.801**	0.406	0.112	0.320	0.234
FL2	**0.750**	0.465	0.302	0.415	0.356
FL3	**0.641**	0.327	0.309	0.362	0.270
FL4	**0.755**	0.387	0.208	0.359	0.263
FL5	**0.839**	0.367	0.196	0.332	0.212
FL6	**0.840**	0.387	0.133	0.302	0.214
FL7	**0.724**	0.364	0.278	0.344	0.278
FL8	**0.781**	0.423	0.224	0.314	0.243
FL9	**0.837**	0.438	0.230	0.376	0.280
FU1	0.490	**0.665**	0.152	0.318	0.290
FU2	0.442	**0.862**	0.449	0.658	0.626
FU3	0.373	**0.838**	0.456	0.602	0.635
IU1	0.205	0.310	**0.682**	0.252	0.306
IU2	0.216	0.305	**0.807**	0.383	0.396
IU3	0.258	0.459	**0.868**	0.472	0.480
PEOU1	0.332	0.485	0.422	**0.752**	0.599
PEOU2	0.372	0.529	0.418	**0.814**	0.563
PEOU3	0.288	0.513	0.302	**0.680**	0.479
PEOU4	0.392	0.581	0.366	**0.837**	0.598
PEOU5	0.369	0.541	0.377	**0.754**	0.539
PEOU6	0.341	0.532	0.354	**0.802**	0.580
PU1	0.284	0.580	0.414	0.606	**0.852**
PU2	0.251	0.502	0.425	0.574	**0.797**
PU3	0.207	0.491	0.459	0.586	**0.785**
PU4	0.392	0.608	0.369	0.583	**0.813**

Based on the results of the analysis test in Table 3, the Cronbach's Alpha value of all variables as a whole is included in the reliable category with values ranging from 0.60 to 0.90 so that the data is declared reliable.

Table 3 Cronbach's Alpha Results

Variable	Cronbach's Alpha
Finacial Literacy	0.942
Fintech Usage	0.704
Internet Usage	0.698
Perceived Ease of Use	0.866
Perceived Usefulness	0.828

Based on the results of the data analysis test in Table 4, the composite reliability value is above 0.70 so that all variables are declared reliable.

Table 4 Composite Reability Results

Variable	Composite Reability
Finacial Literacy	0.950
Fintech Usage	0.834
Internet Usage	0.831
Perceived Ease of Use	0.900
Perceived Usefulness	0.886

Inner Model Test (R Square)

Based on the results of the R-Square test of this research data, the results of the R-Square value on Financial Literacy are 0.28 and Fintech Usage is 0.54.0.

Table 5 R-Square Results

	R Square	R Square Adjusted
Finacial Literacy	0.286	0.284
Fintech Usage	0.547	0.544

Path Coefficient Test

In the path coefficient test method, the results of the original sample, standard deviation, T-Statistics, and P-Value values will be

seen from the existing data. The overall results of data analysis with a data significance level of 5% with the path coefficient method have a significant correlation between variables with a P value <0.05.

Table 6 Nine Path Coefficient Results

	O	M		T	P
FU -> FL	0.54	0.54	0.04	13.87	***
IU -> FU	0.11	0.11	0.04	2.41	***
PEOU -> FU	0.39	0.39	0.06	6.89	***
PU -> FU	0.34	0.34	0.06	5.99	***

Goodness of Fit (GoF) Test

The GoF test in this study was used to see the combined performance of the outer model and the inner model in the study whose values ranged from 0–1 on a scale. GoF test results are obtained from the average root value of communalities with the average root value of R Square. The result of the GoF Financial Literacy value is 0.405.

Discussion

In this study, an analysis test was carried out on each variable to prove whether the variable factors perceived usefulness, perceived ease of use, internet usage, and fintech usage had a significant effect on the level of financial literacy of fintech users. The study used the SEM-PLS analysis test. The following is a discussion of the results of data analysis on each hypothesis compiled in this study.

Hypothesis 1, Perceived Usefulness → Fintech Usage

Hypothesis 1 in this study consists of a statement whether the perceived usefulness factor has a positive influence or not on the use of fintech applications. In the questionnaire consisting of statements answered by respondents on a Likert scale of 1–5, in general, it tries to test whether the use of the fintech application has benefits for users/respondents. An example of a statement in a survey is, "I get many benefits from using fintech applications". The majority of respondents' answers are quite positive with an average result of 5, which indicates that respondents agree that the use of fintech applications provides benefits for its users. Perceived of usefulness certainly indicates that technological development innovations in fintech applications provide many benefits and conveniences for users in making various transactions such as payments, investing, applying for loans, and others. The financial services presented in the fintech application provide significant efficiency solutions for its users so that they can transact quickly and easily.

Based on the results of data analysis, it was also found positive beta results of 0.342, T test results of 5.999, and P Value <0.05. The three indicators of data processing test results show that the perceived usefulness factor has a positive influence on the use of fintech applications, so it can be concluded from this study that Hypothesis 1a, perceived usefulness has a positive influence on the use of fintech applications.

Hypothesis 2, Perceived Ease of Use → Fintech Usage

The second hypothesis in this study consists of a statement if the perceived ease of use factor has a positive/no effect on the use of fintech. The questionnaire includes 6 statements to test whether respondents think the use of features in the fintech application is easy enough to use, such as the statement, "I can use the fintech application easily and skillfully". By using answers consisting of a Likert scale of 1–5

for the choice between strongly disagree to strongly agree, the majority of respondents chose a scale of 5 which means respondents strongly agree that the use of fintech applications is quite easy to implement for their users. This is also related to the profile of respondents who have a millennial generation background and long enough fintech users, based on the results of the questionnaire, the average respondent is an active fintech user for approximately 3.4 years so that fintech users use various features in the fintech application. easy and familiar.

Based on the results of statistical data processing, the results of the positive beta value with a value of 0.388, the T test of 6.892 (> 1.96), and the value of P value <0.05. These three indicators are sufficient to prove that the perceived ease of use factor has a positive influence on the use of fintech applications. The H2a hypothesis, which states that perceived ease of use has a positive effect on the use of fintech applications, is accepted.

Hypothesis 3, Internet Usage → Fintech Usage

The third hypothesis, states whether the internet usage factor has a positive influence or not on the use of fintech applications. In the questionnaire statement with a Likert scale answer between 1–5 (Strongly disagree to Strongly Agree), trying to test the frequency and needs of respondents as fintech users in using the internet. This study tries to test how much the respondents need and influence in using the internet daily. One of the statements in the questionnaire consisted of, "I feel the internet has given me many benefits". Based on the respondents' answers, the majority of respondents answered strongly agree. This proves one of the characteristics of the millennial generation which is closely related to the development of technology and communication along with the times.

The results of the data analysis test showed that the internet usage factor had a positive effect on the use of fintech with a positive beta value, 0.107, a T test value> 1.96 of 2.406, and a P value <0.05 which indicated a significant relationship. Based on the overall data results, it can be concluded that the H3a hypothesis, which states that internet usage has a positive influence on the use of fintech applications, can be accepted in this study.

Hypothesis 4, Fintech Usage → Financial Literacy

In the last hypothesis, it consists of a statement whether the factor of using fintech applications has a positive influence or not on the level of financial literacy of its users. In the questionnaire, 3 statements are presented to test the frequency, purpose, and level of benefits of using fintech applications. Furthermore, 14 statements are presented that test the level of financial literacy for respondents, statements are presented to test how far the respondent understands basic aspects/knowledge around finance, such as the concept of time value of money, personal finance, risk and return, interest, loan, and investments. Based on the results of the questionnaire, the overall results are quite positive, with an average score on the fintech usage and financial literacy factors of 4. This shows that the use of fintech has a fairly positive influence on the level of financial literacy of its users. The average respondent agrees on the financial literacy questionnaire, which shows that the respondents, as users of fintech applications, understand the basic concepts of finance quite well.

In the results of data processing in the previous chapter, the results of the Fintech Usage → Financial Literacy variable test have positive beta indicator results of 0.535, T test results of 13,874, and P Value < 0.05. Overall, the results indicate that the fintech usage variable has a positive influence on financial literacy, so it can be concluded that the H4a hypothesis, which states that the use of fintech applications has a positive effect on the financial literacy of fintech application users, is acceptable.

CONCLUSION

Based on the results of research and discussion in the previous chapter, it is concluded that the Technology Acceptance Model faktor which consists of perceived usefulness and perceived ease of use, as well as the internet usage factor has an influence on the level of financial literacy of fintech application users among the millennial generation. Based on 3 independent variables and 1 mediator variable, it can be stated that Perceived usefulness, perceived ease of use, and internet usage have an influence on the use of fintech applications. Hence, the active use of fintech applications has a positive influence on the level of financial literacy of users with millennial backgrounds in Indonesia.

This study has several limitations due to object of research demographic and nationality. Hence for further research, few suggestions can be to conduct research on the use of more specific fintech applications such as a loan application to open a business (for example: Tunaiku, Modalku), business bookkeeping applications for MSME entrepreneurs, and many other types. Each type of fintech application has the potential for varying degrees of influence. Besides that, do Research object with a specific profile that is more focused, such as fintech application users who actively invest in stocks, mutual funds, or bonds.Lastly, in addition to the influence on the level of financial literacy of active fintech users, it can also be further developed in aspects of financial behavior and financial planning.

REFERENCES

AFTECH. (2020). *Laporan Annual Member Survey 2019/2020.* Jakarta: Asosiasi FinTech Indonesia.

Amagir, A. G. (2018). A review of financial-literacy education programs for children and adolescents. *Journal of Citizenship, Social, and Economic Education*, 17(1), 56–80. doi: 10.1177/2047173417719555.

Carlson, E. (2008). *The Lucky Few: Between the Greatest Generation and the Baby Boom.* Florida: Springer Science & Business Media.

Davis, F. D. (1993). User Acceptance of Information Technology: System Characteristics, User Perceptions, and Behavioral Impact. *Interntional Journal of Man-Machine Studies*, 38(3), 475–487. doi: 10. 1006/imms.1993.1022.

Lusardi, A. (2008). Financial Literacy: An Essential Tool for Informed Consumer Choice? *The Social Science Research Network Electronic Paper Collection*, 1-30.

Meyliana, E. F. (2019). The Influence of Perceived Risk and Trust in Adoption of Fintech Services in Indonesia. *Communication & Information Technology Journal*, 13(1), 31-37. doi:10.21512/commit.v13i1.5708.

Muliaman D. Hadad, P. (2017, June 2). *Indonesia Banking School.* Retrieved November

21, 2020, from http://www.ibs.ac.id: http://www.ibs.ac.id/img/doc/MDH%20-%20FinTech%20IBS%20June%202017.pdf

OECD. (2016, July 1). *The Importance of Financial Education*. Retrieved March 7, 2021, from www.oecd.org: https://www.oecd.org/finance/financial-education/37087833.pdf

OECD. (2017). *G20/OECD INFE report on adult financial literacy in G20 countries.* Paris: OECD/International Network on Financial Education.

OJK. (2017). *Strategi Nasional Literasi Keuangan Indonesia.* Jakarta: Otoritas Jasa Keuangan.

Ozili, P. K. (2018). Impact of digital finance on financial inclusion and stability. *Borsa Istanbul Review*, 18(4), 329–340. doi: 10.1016/j.bir.2017.12.003.

Palameta, B. N. (2016). *The Link Between Financial Confidence and Financial Outcomes Among Working-Aged Canadians.* Ottawa: The Social Research and Demonstration Corporation.

Sekaran U., R. B. (2014). *Research Methods for Business: A Skill Building Approach 6th Edition.* Chicester, UK: John Wiley & Sons.

Shen, Y. W. (2019). The Effects of Financial Literacy, Digital Financial Product Usage and Internet Usage on Financial Inclusion in China. *International Conference on Circuits and Systems* (pp. 228, 1–6). Portugal: MATEC Web of Conferences.

Shubhangi Singh, M. M. (2020). What drives FinTech adoption? A multi-method evaluation using an adapted technology acceptance model. *Management Decision*, 58(8), 1675–1697. doi: 10.1108/MD-09-2019-1318.

Trinh, P. J. (2019). Fintech and Financial Literacy in LAO PDR. *ADBI Working Paper Series*, 1–19.

Walstad, K. R. (2017). The Test of Financial Literacy: Development and measurement characteristics. *Journal of Economic Education*, 48(2), 113–122. doi: 10.1080/00220485.2017.1285739.