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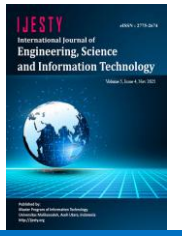

Global Citizens, Language Issues, and Digital Economy: An Inquiry into Financial Technology Adoption among International Students

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Abstract

Financial Technology (FinTech) has significantly changed the landscape of Indonesia's digital economy. On the other hand, the increasing non-domestic population in Indonesia, especially the student age group, also reflects the broadening demographic dynamics. This group plays a crucial role as a consumer in national economic growth. Despite the increasing growth of the national digital economy, the non-domestic population, especially the student age group, is doubtful about the acceptance of using FinTech. This paper investigated non-domestic students' intention to use FinTech in Indonesia. The authors employed mixed methodology with an explanatory sequential design. Thus, this paper explored this narrative based on the Technology Acceptance Model (TAM) and external factors, such as Performance Expectancy (PE) and Social Influence (SI). Using the partial least squares (PLS) approach, data from the 75 non-domestic students in Indonesia were analysed. In addition, this paper also utilised in-depth interviews to gather further information from participants. The thematic analysis of the semi-structured interviews was conducted to explore the non-domestic students' experience of using Indonesian FinTech.

Keywords: *Digital Economy, Financial Technology, Non-domestic Students, Technology Acceptance Model, Partial Least Squares.*

1. Introduction

Financial Technology (FinTech) represents a set of innovative services, supported by advances in information and communication technology [1]. The FinTech sector includes innovative companies that offer financial services based on technology, FinTech being the result of merging two concepts: "finance" and "technology" to "financial technology" [2]. FinTech services are to be found in a variety of industries such as: mobile payments, e-commerce, portfolio management, risk management, customised consulting, virtual currencies, systems integration, and others [3, 31, 32]. The financial crisis of 2008 contributed to the growth of the FinTech industry, as consumers experienced difficulties in accessing traditional financial services [4, 37, 38, 39]. Fintech contributes to democratizing access to financial services, which is beneficial for financial inclusion in developing markets. The foundation of FinTech relies on advanced technologies such as artificial intelligence (AI), blockchain, Internet of Things (IoT), and mobile wallets [2].

In Indonesia, FinTech has become one of the fastest-growing industries, with e-money transactions growing sixfold between 2012 and 2017 to IDR 12.3 trillion (USD 840 million) [5]. Digital payments, e-wallets, and peer-to-peer lending have fueled this growth, driven by Indonesia's large population, of which 51.5% are internet users [6]. The rise of digital payments, e-wallets, and peer-to-peer lending platforms has created new opportunities for financial inclusion, especially in a country with a large population that traditionally lacked access to conventional banking services [6]. The number of FinTech companies in Indonesia surged from 51 in 2011 to 334 in 2022, illus-

trating a maturing FinTech ecosystem [7]. As of 2019, Indonesia's fintech market is largely driven by P2P lending and e-payment services, with P2P lending disbursements reaching IDR 22.67 trillion (USD 1.62 billion), marking a 645% year-on-year increase [5]. The growing impact of the FinTech sector depends on technological innovation, as well as on combining the innovative processes with the creation and delivery of customised, 24/7 financial services that enhance customer experience [8]. FinTech means not only service innovation, but also innovation of financial business models. FinTech companies are more technology-oriented than traditional counterparts; with the help of information technologies, financial services can be offered to customers in a faster and more convenient way and at lower costs [9].

With more foreigners finding interest in the country and more expatriates, students, and digital nomads living in Indonesia, FinTech helps simplify their financial transactions. People in other countries use technology to transact, pay, transfer cash, and do business across borders. In this case, FinTech solutions available in Indonesia are meeting their needs and providing services such as currency exchange, online banking, and remittance options, thus making it easier for them to be integrated into the country's financial system [7]. In the current usage and prospects of Indonesia, the financial technology or FinTech service is an ideal financial integration for both the local and international users, especially for the expatriates and international business establishments. This transition suggests that the dominance of technological financial services is the future and has a positive impact on efficiency and quality of the services across the nation [9, 35, 36].

Previous research on FinTech [10, 11, 12, 33, 34] has tended to examine the adoption of e-commerce and m-banking based on the local content. There are a limited number of studies that predict the adoption of FinTech by non-domestic. So, the purpose of this study was to extend the Technology Acceptance Model (TAM), proposed by Davis, with another external factor, performance expectancy and social influence. Non-domestic students studying in different higher education institutions across Indonesia were invited to participate in the study and were investigated by questionnaires. The collected data were analysed by structural equation modelling (SEM) to examine: a) relationships between performance expectancy and social influence and the variables of the TAM; b) relationships among the variables in the TAM; and c) the predictability of the extended TAM on participants' acceptance of FinTech in Indonesia. In order to construct a better understanding of individuals' perception of FinTech adoption, a qualitative study was also conducted after the quantitative study [13].

2. Literature Review

2.1. Grand Theory: Technology Acceptance Model (TAM)

Financial technology, or FinTech, grew alongside advancements in technology like the internet, smartphones, and big data. These advancements made it easier and more affordable to offer financial services. Fintech has presented a challenge to conventional banks and financial institutions by providing new and different ways to access financial services, especially after the global financial crisis. Since FinTech is shifting from conventional to digital, it is appropriate to explore the paradigm with the Technology Acceptance Model (TAM). TAM was developed by [14]. The model centers around two key beliefs that influence a user's intention to adopt a technology: first, Perceived Usefulness (PU) that refers to the individual's perception of how much a specific technology will enhance their performance and achieve their goals and second, Perceived Ease of Use (PEOU) that reflects the user's perception of the effort required to learn and use the technology [14]. From this perspective of TAM, perceived ease of use and perceived usefulness are assumed to be related to the acceptance of a computer or technology system. TAM assumed that: a) the actual use of the computer system is determined by a users' behavioral intention to use; b) users' behavioral intention to use is determined by attitude toward using, and perceived usefulness; c) users' attitude toward using is determined by perceived usefulness and perceived ease of use; and d) perceived ease of use affects perceived usefulness, which also mediates the effect of perceived ease of use on attitude toward using [15].

Research has consistently supported TAM's validity when tested in different organisational environments and with various information technologies. [16] employed an extended TAM with brand quality and website quality to predict Chinese consumer intention to use apparel mobile commerce (m-commerce). [17] also examined how AI can be made more effective and profitable in e-commerce and how entrepreneurs can use AI technology to assist in achieving their business goals through TAM.

2.2. Financial Technology (FinTech)

In early 2023, the number of internet users in Indonesia had reached 78.19%, an increase of 1.17% from the year 2022 [18]. Along with the growing number of internet users, Indonesia's national digital economy has also been highly competitive, successfully nurturing several new unicorns within the past five years and even expanding its services regionally. This demonstrates Indonesia's significant digital economy and its ability to scale up. Additionally, it highlights the allure and growth prospects of the digital economy in Indonesia. This has laid a strong foundation for the development of a vibrant and innovative FinTech sector. However, Indonesian players are still small in scale compared to global and regional tech giants.

Table 1. Valuation of tech companies (USD billion)

Companies	Related FinTech	Market cap (USD B)
Amazon	Amazon Pay	1,150
Meta	Meta Pay	458
Alibaba	AliPay	330
Goto	GoPay	24
Traveloka	Traveloka Pay	1

Source: Digital Indonesia Vision 2045

2.3. The use of FinTech

The customer experience, as it pertains to the perceived benefits and usefulness of FinTech services, is a critical factor influencing behavioural intentions. Research suggests that perceived ease of use, perceived usefulness, trust, and social influence are key dimensions shaping adoption [19]. Previous studies have explored various factors influencing FinTech usage. Given the diversity of findings, there is no definitive consensus among experts, presenting ample opportunities for further research, particularly in the context of non-domestic users' experiences.

2.4. Performance Expectancy (PE)

Individuals are more likely to adopt FinTech services when they believe that these technologies will enhance their job performance. Performance expectancy, as defined by [20], is the degree to which one believes that innovative technologies will improve job outcomes. If individuals perceive FinTech solutions as streamlining tasks, reducing errors, or providing valuable insights, they are more likely to adopt them. Additionally, when FinTech services are seen as saving time or money or providing a competitive advantage, performance expectations are likely to be high, encouraging adoption. Moreover, if individuals believe that FinTech tools will help them make better-informed decisions, they are more likely to adopt them based on their perceived performance benefits. To prove such a notion, the following hypotheses will be tested.

H1: PE influences PU

H2: PE directly influences attitudes towards using FinTech

2.5. Social Influence (SI)

Social influence plays a significant role in individuals' decisions to adopt FinTech services. People are often influenced by the opinions of others regarding the value and necessity of these technologies [20]. Family and friends can exert considerable influence on individual choices [21]. [22] found that social influences, including subjective norms, voluntariness, and image, are interconnected and can significantly impact individuals' intentions to use technology and their perceived usefulness. Therefore, social influence is likely to affect the adoption and usage of FinTech. The opinion will be assessed using the following hypotheses.

H3: SI influences PU; H4: SI influences PEOU; H5: SI directly influences the attitudes towards using FinTech; H6: SI affects PE.

2.6. TAM variables

PEOU of a technology directly influences individuals' expectations regarding its potential to improve performance or outcomes. In the context of FinTech adoption, this means that if non-domestic students perceive FinTech services as easy to use, they are more likely to believe that these services can help them achieve their academic or personal goals more effectively. Moreso, according to the TAM proposed by [14], the following relationships were observed: (a) perceived ease of use positively influenced perceived usefulness; (b) both perceived usefulness and perceived ease of use positively influenced attitude toward using. These were proved by several technology acceptance studies on online learning [23], mobile banking [11], and apparel mobile commerce [16]. Therefore, the following hypotheses will be tested.

H7: PEOU influences PE; H8: PEOU influences PU; H9: PEOU directly influences the attitudes towards using FinTech; H10: PU directly influences the attitudes towards using FinTech

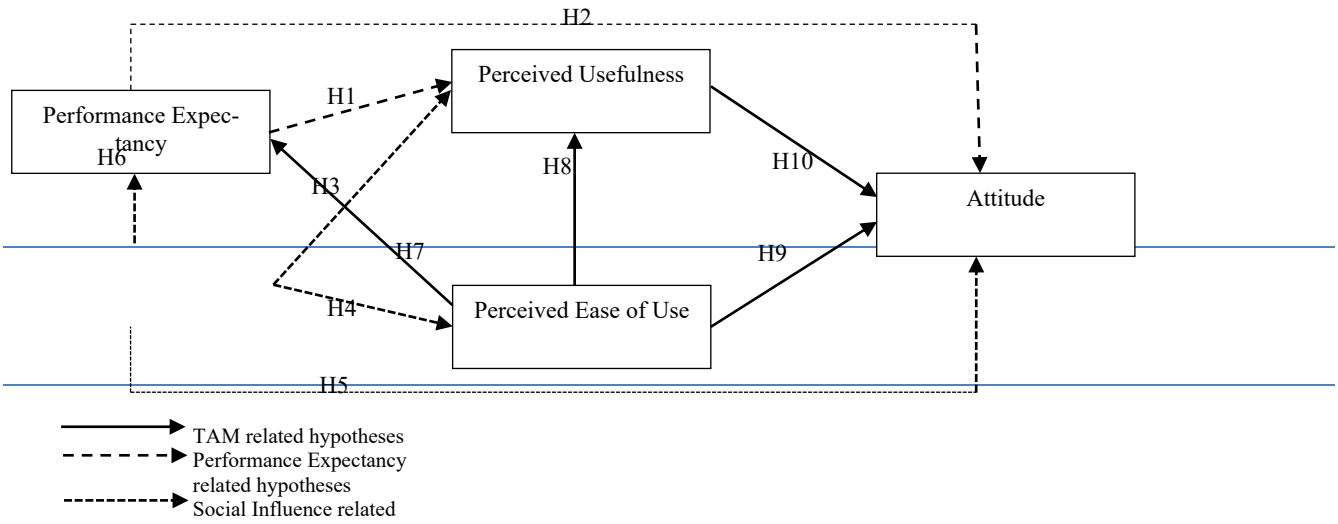

Fig 1. The research model and hypotheses

3. Methods

Participants in the present study were 75 non-domestic students (45 males and 30 females, aged from 18 to 48) who are currently studying in higher education institutions in Indonesia. Their levels of education are currently pursuing Bachelor's degree, Master's degree and Doctoral degree. The duration of their stay in Indonesia is more than 1 year, and 100% of them have experience in using FinTech based in Indonesia. All participants were informed what the study was about and how it would be conducted. They were also informed that they could choose to be in the study or not, and that they could leave the study at any time. Moreover, the participants were reassured that their responses were kept confidential and their identities would not be revealed in research reports or in the publication of the findings. The current study was a research with sequential explanatory mixed methods with two phases: Quantitative phase and Qualitative phase.

3.1. Quantitative phase

Data for latent variables were collected by a questionnaire with a 7-point Likert-type scale. The response options were from 1 (strongly disagree) to 7 (strongly agree). Structural equation modelling (SEM) is a statistical method to analyse data that combines two other methods: factor analysis and path analysis. It helps us understand theories and how different things are related to each other. We used SEM in this study to test our research model and hypotheses. PLS-Graph and SmartPLS are also software programs that can do SEM

analysis, but they use a different method called component analysis. Component analysis analyses relationships among latent variables through path modelling based on the partial least squares (PLS). PLS examines the significance of path coefficients in the model analysis by using different sampling methods. SmartPLS used a method called bootstrapping to provide t-test values for path coefficients in the model analysis. Bootstrapping is like taking many samples from the data, and in the present study, the samples of bootstrapping were set to be 5,000. This study performed the measurement model analysis for examining the reliability and validity of the latent variable first, and then performed the structural model analysis for examining the research hypotheses and the explanatory power of the model.

3.2. Measurement model analysis

Measurement model analysis was conducted to ascertain whether all measured variables accurately reflect the underlying latent variables in the research model and to ensure that they do not have significant loadings on other latent variables. This study examined the measurement model from three perspectives suggested by [24], including individual item reliability, convergent validity, and discriminant validity. The reliability and validity analyses based on these perspectives are detailed below.

Table 2. Reliability and validity analysis of latent variables

Latent variables	Measured variables	Factor loading	Convergent validity	
			CR	AVE
Performance expectancy	PE1	0.903	0.948	0.859
	PE2	0.945		
	PE3	0.933		
Social influence	SI1	0.883	0.928	0.811
	SI2	0.912		
	SI3	0.907		
Perceived ease of use	PEOU1	0.918	0.957	0.849
	PEOU2	0.892		
	PEOU3	0.955		
	PEOU4	0.919		
Perceived usefulness	PU1	0.938	0.936	0.829
	PU2	0.915		
	PU3	0.878		
Attitude toward using	AT1	0.911	0.942	0.845
	AT2	0.918		
	AT3	0.929		

Individual item reliability was evaluated by examining the factor loadings of measured variables on their respective latent variables. [24] proposed that a low factor loading indicates a limited explanatory power of the model, and recommended that factor loadings should ideally exceed 0.7. Table 2 demonstrates the overall satisfactory reliability of the measured variables in this study, as all factor loadings on the latent variables ranged from 0.87 to 0.95. Composite reliability (CR) and average variance extracted (AVE) are the two main indicators used to evaluate convergent validity [26]. Also, [25] suggested that composite reliability should be greater than 0.7. Table 2 shows a good internal consistency for each latent variable, ranging from 0.92 to 0.95. [25] suggested that an average variance extracted should be greater than 0.5. Table 2 shows that the average variance extracted for each latent variable ranged from 0.81 to 0.85. Based on the analysis, latent variables in the present study possessed good convergent validity. [25] proposed that discriminant validity can be assessed by comparing the square root of the average variance extracted (AVE) for each latent variable with the correlation coefficients between that latent variable and the other latent variables. Discriminant validity is established when the square root of the AVE for a latent variable exceeds the correlation coefficients with other latent variables. Table 3 demonstrates that the square roots of average variance extracted were indeed greater than the correlation coefficients between the latent variables, indicating the presence of discriminant validity among the latent variables in this study. Based on the analyses of the three indicators, the latent variables in the research model exhibited satisfactory reliability and validity, thus qualifying them for hypothesis testing regarding the correlations among the latent variables and the predictive power of the model's explanatory capacity.

Table 3. The square root of the AVE of each latent variable and the correlation

Latent variables	Performance expectancy	Social influence	Perceived ease of use	Perceived usefulness	Attitude toward using
Performance expectancy	**0.927**				
Social influence	0.452	**0.901**			
Perceived ease of use	0.817	0.452	**0.921**		
Perceived usefulness	0.882	0.499	0.905	**0.91**	
Attitude toward using	0.821	0.448	0.863	0.89	**0.919**

3.3. Structural model analysis

Structural model analysis primarily focuses on examining path coefficients and R^2 among latent variables within the research model. Path coefficients quantify the relative strength and direction of causal relationships between latent variables, while R^2 indicates the proportion of total variance in endogenous variables (dependent variables) explained by exogenous variables (independent variables) and represents the predictive power of the research model. Path coefficients and R^2 serve as indicators of the correspondence between the structural model and empirical data.

As we can observe in Table 4, the test results for Hypotheses 1,4,7,8,9 and 10 were significant. The significant results included: a) performance expectancy influences perceived usefulness; b) social influence influences perceived ease of use; c) perceived ease of use influences performance expectancy, d) perceived ease of use influences perceived usefulness; e) perceived ease of use directly influences the attitudes towards using FinTech; and f) perceived usefulness directly influences the attitudes towards using FinTech. The coefficients for the six hypotheses were 0.419, 0.483, 0.782, 0.539, 0.306, and 0.496, respectively. On the other hand, the test result for Hypothesis 2 was not statistically significant in this study, meaning that performance expectancy and attitude towards using FinTech did not have a causal relationship. Hypotheses 3,5, and 6 were also not statistically significant in this study, meaning that social influence did not have causal relationships with perceived usefulness, attitude toward using, and perceived ease of use.

PLS evaluates the overall model fit by assessing the R^2 values of endogenous variables. This approach is grounded in the core principle of PLS, which prioritises the minimisation of prediction errors and the maximisation of explained variance in all endogenous variables. By examining the R^2 values, PLS provides insights into the extent to which the model successfully accounts for the variation in the dependent variables. As shown in Figure 2, R^2 for the four endogenous variables in the present model, including attitude towards using, perceived usefulness, perceived ease of use, and performance expectancy, were 0.814, 0.882, 0.234, and 0.673, respectively. In other words, perceived usefulness and perceived ease of use explained 81% of the total variance in attitude toward using; perceived ease of use and performance expectancy explained about 88% of the total variance in perceived usefulness; social influence explained about 23% of the total variance in perceived ease of use; and perceived ease of use explained about 67% of the total variance in performance expectancy. Since the research model explained more than 50% of the total variance in attitude toward using, the research model held a good predictive ability and explanatory power for the acceptance of FinTech.

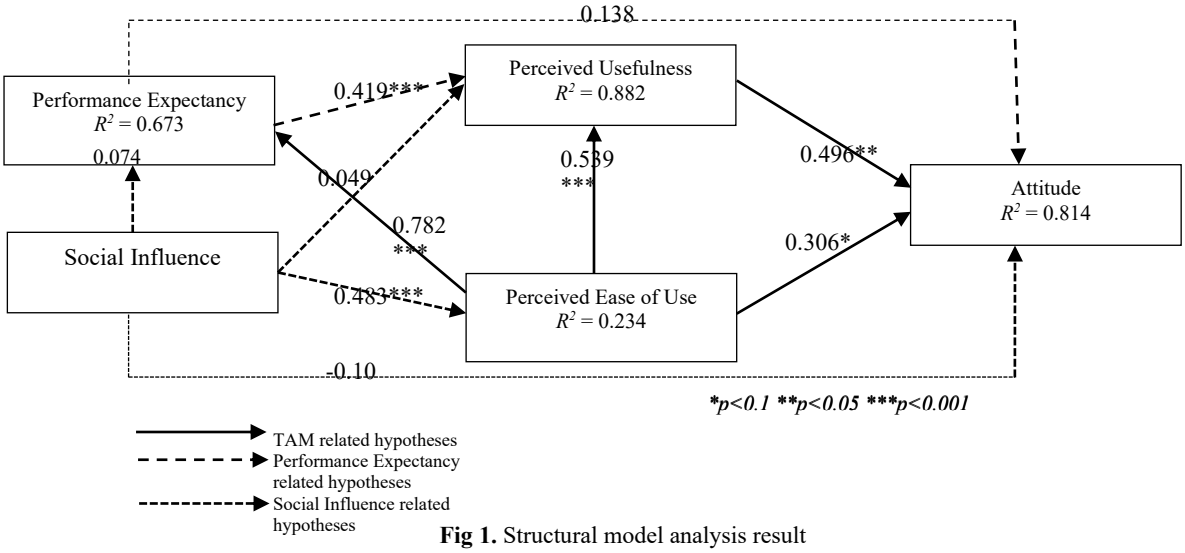

Fig 1. Structural model analysis result

Table 4. Path coefficients and results of the hypothesis test

Hypotheses	Pathe	Path Coefficient	t value	Results
1	PE -> PU	0.419	5.385***	Accept
2	PE -> A	0.138	1.166	Reject
3	SI -> PU	0.049	1.008	Reject
4	SI -> PEOU	0.483	5.253***	Accept
5	SI -> A	-0.01	0.181	Reject
6	SI -> PE	0.074	0.698	Reject
7	PEOU -> PE	0.782	9.428***	Accept
8	PEOU -> PU	0.539	6.775***	Accept
9	PEOU -> A	0.306	1.898*	Accept
10	PU -> A	0.496	2.791**	Accept

3.4. Qualitative Phase

This qualitative research study investigates the utilisation and perceptions of FinTech services among non-domestic students in Indonesia. Through in-depth interviews with ten participants, key themes emerged regarding the types of FinTech services employed, their advantages and disadvantages, and the challenges faced by international students in accessing certain services. Ten non-domestic students from diverse countries participated in the study, comprising five males and five females. Semi-structured interviews were conducted to gather data on participants' experiences with FinTech services in Indonesia. Thematic analysis was employed to identify significant themes and patterns within the interview data.

4. Results and Discussion

The findings reveal that FinTech services have become an integral part of the daily lives of non-domestic students in Indonesia. Participants reported using a variety of FinTech services, including online transfer and digital wallets such as QRIS, Dana, GoPay, ShopeePay, and OVO. The use of FinTech aims to fulfil basic needs, including food, clothing, shopping, electricity/water/phone bills, internet quota packages, education, entertainment and other daily needs.

4.1. FinTech-related security

Of the 10 participants, each participant shared the opinion that using FinTech is more convenient than using cash, as the security is prioritised, such as having to use a password/passcode/Face ID to access the application and services and being more transparent in storing.

4.2. Easiness and usefulness related to FinTech

Of the 10 participants, each participant shares the opinion that using FinTech is easier and more useful, as there is no need to recalculate the spent amount, and there is no change back. Regarding this, participant F1, who is a female doctoral student, purports,

"Sometimes, I feel annoyed with that small change earned back from the sellers, and I don't really want to calculate that money again and again. If I pay with QRIS or by scanning through e-wallets, it is all done at once"

In addition, M4, who is a male master's degree student, reported that he found it easy to use FinTech,

"Sometimes, I lack cash in my hand and at that time, I can use GoJek (a popular ride-hailing application in Indonesia) just by topping up to GoPay. The process is very easy to do within a short minute"

4.3. Expected performance related to FinTech

The convenience, security, and speed offered by FinTech services were widely appreciated by participants. The ability to conduct transactions without carrying cash was perceived as a significant advantage, and the fast and efficient nature of these services was highly valued. However, the study also highlights the limitations faced by non-domestic students in accessing certain FinTech services. Due to the requirement of an Indonesian ID card (KTP), participants encountered challenges in registering for and using services like ShopeePay and SEA Bank promotions. In this sense, F2, who is a female bachelor's degree student, said,

"As for the basic features in all these applications, it still works with the basic information and identification with email and phone numbers. However, after I used it long time, I started to feel like the features are limiting. Then, I wanted to upgrade the Level in GoPay and also Dana, but I can't do anything as I don't have a KTP [ID]."

Also, F5, who is a female master's degree student, said that she can't enjoy the promotion in e-commerce,
"I also wanted to get the promotion price on Shoppee, but it required the SEA Bank account. I tried to open an account immediately, but I don't have the KTP [ID] they asked for."

Additionally, M1, who is a male bachelor's degree student, expressed,

"I am not fluent in Bahasa, and when I wanted to know features on my m-banking, I couldn't change the language to English. So, I was worried about clicking on the wrong buttons."

Moreso, F3, who is a female bachelor's degree student, shared her experience about the minimum purchase,

"Actually, the purchase I made at the store can be paid by QRIS, but they said the minimum purchase is 50,000 Rupiah. I only wanted to buy some snacks"

Furthermore, FinTech services, while convenient, heavily rely on internet connectivity, and non-domestic students often face challenges when their internet connection is too slow or when they suddenly run out of their internet quota to complete transactions. Additionally, some apps impose high transaction fees, making them less cost-effective for frequent use. Another limitation is that FinTech services are not whole accepted, particularly in rural areas where small vendors may not have the infrastructure to support digital payments. Moreover, there are occasional system outages or transaction delays, leaving students in difficult situations when they do not have cash as a backup, this is said by all participants.

4.4. Social influence related to FinTech

Participants shared that they were more likely to be independent in finance. Regarding this, participant F1, who is a female doctoral student, said,

"I don't really want others to know how much money I have or even which e-wallets I use. I am just using these applications as they can help me with managing my finances independently."

Moreso, F3, who is a female bachelor's degree student, shared,

"My Indonesian friends use a lot of e-wallets, and I'm aware of it. But for me, I just chose the one a bit convenient. Frankly speaking, a lot of my friends use Dana, but I am more active on GoPay."

4.5. Research hypotheses

For performance expectancy, the results revealed that perceived ease of us positively affected performance expectancy and performance expectancy positively affected perceived usefulness. Thus, it is likely that non-domestic students who find FinTech services intuitive and easy to use are more likely to believe that these technologies can help them achieve their goals or improve their performance. When they believe that FinTech can enhance their performance, they are more likely to perceive it as useful and valuable. This chain of influence highlights the importance of user experience in FinTech adoption. However, this study found no significant direct relationship between performance expectancy and attitude toward using. This finding contrasts with previous research [27, 28], which implied that, with increasing usefulness of m-banking services, consumer attitudes towards its adoption will increase. Thus, our study implies that non-domestic students' feelings about using FinTech are not primarily driven by their beliefs about the potential benefits and improvements

that these technologies can offer. However, the researchers are aware that while performance expectancy may not be a significant predictor in this particular study, it could still play a role in other contexts or with different populations.

For social influence, the results revealed that social influence positively affected perceived ease of use. However, this study found no significant relationship between social influence and perceived usefulness, performance expectancy and attitude toward using. This finding contrasts with the former studies [29, 12] where social influence shows a significant relationship in predicting attitude toward using a technology. Thus, this study implies that different cultural norms and values may influence non-domestic students' perceptions of technology and its potential benefits. Some cultures may prioritise collectivism over individualism, which could impact the role of social influence in technology adoption.

For the TAM-related hypotheses, results showed that: a) perceived ease of use positively affected perceived usefulness; and b) perceived ease of use and perceived usefulness positively affected attitude toward using. These results were consistent with the findings on TAM proposed by [15] and further studies [23, 30].

4.6. Effects

The relationships between latent variables in this study involve both direct and indirect effects. The overall effect of one latent variable on another is the combination of these direct and indirect effects. Table 5 shows the specific relationships between the latent variables in this study. As shown in Table 5, perceived ease of use was the antecedent factor that affected performance expectancy and social influence affected performance expectancy indirectly through perceived ease of use. Social influence was also the antecedent factor that directly affected perceived ease of use. Performance expectancy and perceived ease of use were the antecedent factors that affected perceived usefulness. Furthermore, perceived ease of use also had an indirect effect on perceived usefulness through performance expectancy. Although social influence did not affect perceived usefulness directly, these factors affected perceived usefulness indirectly through perceived ease of use and performance expectancy. This indirect relationship suggests that social factors can influence students' perceptions of FinTech by making it easier to use and by increasing their belief in its potential benefits. So, the order (from greatest to smallest) for the overall effects of the latent variables that affected perceived usefulness was perceived ease of use, social influence and performance expectancy.

Table 5. Effects of each latent variable

	Performance expectancy			Perceived ease of use			Perceived usefulness			Attitude		
	D	I	O	D	I	O	D	I	O	D	I	O
Performance expectancy	---	---	---	---	---	---	0.419	---	0.419	0.138	0.208	0.346
Social Influence	0.074	0.378	0.452	0.483	---	0.483	0.049	0.45	0.499	-0.01	0.458	0.448
Perceived ease of use	0.782	---	0.782	---	---	---	0.539	0.328	0.867	0.306	0.538	0.844
Perceived usefulness	---	---	---	---	---	---	---	---	---	0.496	---	0.496

Note: D = Direct; I = Indirect; O = Overall

Although performance expectancy and social influence did not affect attitude toward using directly, these two factors affected attitude towards using indirectly through perceived ease of use and perceived usefulness. So, the order (from greatest to smallest) for the overall effects of the latent variables that affected attitude toward using was perceived ease of use, perceived usefulness, social influence and performance expectancy. Therefore, perceived ease of use, perceived usefulness, social influence and performance expectancy were the antecedent factors that affected attitude toward using FinTech by non-domestic students in Indonesia.

5. Conclusion

In this study, performance expectancy positively affected perceived usefulness. Although it did not affect attitude toward using directly, it affected attitude toward using indirectly through perceived usefulness. Social influence also positively affected perceived ease of use. Although it did not affect attitude toward using directly, it affected attitude toward using indirectly through perceived ease of use, performance expectancy and perceived usefulness. Therefore, in FinTech adoption, performance expectancy and social influence can be one of the antecedent factors that affect the variables of the TAM. The acceptance model of FinTech adoption proposed by the present study could explain about 81% of the total variance in the attitude toward using. Overall, the present model was good in predicting and explaining non-domestic students' adoption of FinTech in Indonesia.

From the findings of the qualitative study, FinTech services have emerged as essential tools for non-domestic students in Indonesia. The convenience, ease, and usefulness have made them highly popular among participants. However, the study underscores the need for further research to explore strategies for improving access to these services for non-domestic students, particularly those facing regulatory restrictions and language barriers to accommodate non-domestic students and other foreign users.

Since FinTech services are rapidly developing, users are able to access them without any time or place restrictions. The researchers in the present study proposed an extended TAM with performance expectancy and social influence and employed SmartPLS as an analysis tool for SEM to examine the predictability and explanatory power of the model on FinTech adoption. The results provided meaningful relationships among the variables in the TAM, including performance expectancy, social influence, perceived ease of use, perceived usefulness, and attitude toward using. In the past, there have been a limited number of studies examining the adoption of FinTech, especially by non-domestic students. Therefore, the findings in the present study provided a reference for future TAM and FinTech-related studies.

This study presented that perceived ease of use was an important factor that affected non-domestic users' attitude towards using FinTech, so enhancing the ease of the FinTech services would enhance non-domestic users' attitude towards FinTech use. Consequently, enhancing the ease of use and performance of the FinTech services is helpful to facilitate usefulness and attitude toward using, which could be noted by policymakers and service providers of FinTech. Moreso, participants in the qualitative study suggested that FinTech services would be significantly improved if they could operate without relying on the Internet and if system reliability could be enhanced to prevent transaction delays or failures. They also emphasised the need to reduce transaction fees, as high charges can deter frequent use. Additionally, they believe it would be beneficial to see broader acceptance of FinTech, particularly among small businesses and in rural areas where

digital payment infrastructure is often lacking. These suggestions are included from each participant M1, M2, M3, M4, M5, F1, F2, F3, F4, and F5.

In this study, the questionnaire was distributed through social media groups of international students in Indonesia. However, only non-domestic students from Java and Sumatra islands participated. The data from other islands of Indonesia, namely Bali, Nusa Tenggara, Kalimantan, Sulawesi, Maluku, and Papua, were not collected. Therefore, it was not appropriate to generalise the study results at a nationwide scale. Moreover, the variable continuance intention to use was not included in the present FinTech model. Future studies can include continuance intention or other external variables that affect the acceptance of FinTech to predict and explain non-domestic users' acceptance of FinTech in Indonesia. Finally, it was found that performance expectancy and social influence did not affect attitude toward using directly in the present study. Given that the participants in this study are non-domestic students, it is reasonable to assume that a majority of them are independent individuals who have established their own financial lives. This independence might reduce the influence of social factors, such as recommendations from friends, teachers, or local communities, on their decision to adopt FinTech services. Therefore, their choices may be primarily driven by their personal needs and preferences, rather than external social pressures.

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