FINANCIAL LITERACY AND FINTECH ADOPTION AMONG UNIMAS STUDENTS

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ABSTRACT

This study investigates the relationship between financial literacy and fintech adoption among students at Universiti Malaysia Sarawak (UNIMAS). This study uses a structured questionnaire for 152 respondents. Both descriptive and regression analysis are used in this study. The regression results show that demographic factors are not significant influencing fintech adoption among UNIMAS students. On the other hand, financial knowledge, perceived usefulness and digital literacy are significant. The implications of this research extend beyond academia, holding significant relevance for policymakers and financial service providers.

Keywords: *Financial Literacy, Fintech, University Students*

INTRODUCTION

Financial literacy refers to the ability to understand and effectively use various financial skills such as personal financial management, budgeting, and investing, is a critical factor in an individual's ability to negotiate the intricacies of the financial system (Lusardi & Mitchell, 2014). Globally, financial literacy levels are often seen as inadequate to meet the challenges posed by modern financial systems. The OECD (2023) survey revealed that the average financial literacy score among adults in OECD countries remains at 59% of the maximum possible, indicating significant gaps in foundational financial knowledge. Addressing these gaps is critical to fostering better financial resilience and improving the adoption of financial technologies (Fintech). Fintech refers to the use of technological advancements to deliver financial services that are more efficient, accessible, and user- friendly than traditional financial services (Shaikh & Amin, 2023). These services cover a wide range of applications, such as mobile banking, digital payments, peer-to-peer lending, online investing platforms, and cryptocurrency. The expansion of Fintech has resulted in substantial changes in how people handle their finances, notably with the increased usage of smartphones and other digital devices to access financial services (Darmansyah et al., 2021).

Despite the increased availability of Fintech services, adoption rates vary by demographic group. Financial literacy plays a critical role in Fintech adoption. For instance, the OECD (2023) survey showed that approximately 70% of adults globally used mobile payment systems, with higher adoption rates observed in countries with robust financial education initiatives. However, while 83% of respondents reported awareness of Fintech tools, less than 50% actively used them, underlining a gap between awareness and action. In Malaysia, financial literacy levels vary greatly, and this discrepancy has a substantial impact on Fintech service acceptance, particularly among younger demographics such as university students and recent graduates (Utami & Ekaputra, 2021). The university students provide a representative sample for investigating how

financial literacy promotes Fintech uptake within an educational setting. University students are frequent early adopters of technology; however, their use of Fintech services may be limited by their financial literacy (Shaikh et al., 2020)

Financial literacy has been demonstrated in studies to favorably influence the adoption of digital financial services because it helps people comprehend and trust the new technologies that are being brought into the financial environment (Liebana-Cabanillas et al. 2019). Furthermore, financial literacy provides users with the knowledge required to analyze the risks involved with utilizing digital financial services, such as cybersecurity threats, privacy concerns, and the dependability of service providers. (Shaikh et al., 2020). The Fintech sector provides a wide range of services that could assist the students, including digital payment options like e-wallets, online banking, and investing platforms. For example, mobile banking applications make it simple for students to transfer funds, pay bills, and monitor their accounts. However, research suggests that individuals with limited financial literacy are less likely to use these technologies, often perceiving them as confusing, risky, or unnecessary. In contrast, those who are more financially literate are more inclined to value the convenience, cost savings, and security benefits provided by Fintech services. Thus, this study aims to investigate the relationship between financial literacy and the adoption of Fintech services among UNIMAS students. The results of this study have major implication towards financial services provider and policy makers.

LITERATURE REVIEW

Financial literacy and fintech adoption are interconnected concepts that are particularly vital for university students navigating the complexities of modern financial landscapes. Financial literacy refers to the ability to understand and effectively utilize financial skills including budgeting, investing, and managing debt (Lusardi & Mitchell, 2014). It is essential for making informed financial decisions, particularly for students who face unique financial challenges during their academic journey. Research has indicated that higher levels of financial literacy correlate with better personal financial management, enabling students to negotiate the often-confusing array of financial products and services available in today's economy (Lusardi & Mitchell, 2014). Educators increasingly recognize the significance of equipping students with this knowledge as a means of promoting economic stability and well-being.

In an era where financial services are evolving rapidly due to technological advancements, understanding financial concepts becomes crucial. Students who are financially literate are better prepared to engage with digital financial services, such as online banking and investment platforms, providing them with enhanced tools to manage their finances effectively. Research has shown that students with higher levels of financial literacy are more inclined to adopt fintech services, as they possess the necessary knowledge to evaluate and utilize these technologies effectively (BermeoGiraldo et al., 2023; Prabhakaran et al., 2023). This relationship underlines the necessity for educational programs that focus on improving financial literacy among students, thereby preparing them to adapt and thrive in a digitally driven financial ecosystem.

However, disparities in financial literacy levels exist across demographic variables, including age, gender, and socio-economic status, which can impact fintech adoption rates (Liebana-Cabanillas et al., 2019). For instance, research has shown that students from higher socio-economic backgrounds or those educated in finance-related fields tend to exhibit greater financial literacy, affecting how they interact with fintech tools. Gender differences also play a role, as male students often display more confidence in using these technologies compared to their female

counterparts. Addressing these disparities through targeted educational interventions is crucial for ensuring that all students have equal access to the resources and knowledge needed for effective fintech engagement.

Ultimately, the integration of financial literacy education into university curricula is vital for fostering a financially responsible society. As students graduate and transition into the workforce, their financial decisions will affect not only their individual economic futures but also that of their communities. Universities can empower students with the skills and tools they need to navigate a rapidly changing financial landscape by promoting financial literacy and encouraging the adoption of fintech solutions. This proactive approach supports not just personal financial success, but also broader goals of economic inclusion and responsible financial behavior in society.

Fintech, short for financial technology, represents the application of innovative technologies to improve and automate financial services. Setiawan et al. (2021) define fintech as a transformative force reshaping how individuals and businesses engage with financial services, offering benefits such as increased efficiency and financial inclusion (Setiawan et al., 2021). The adoption of fintech solutions is influenced by factors like perceived ease of use, usefulness, and financial literacy, as highlighted by Venkatesh et al. (2003) in the UTAUT model.

The fintech industry has evolved rapidly since its inception in the late 20th century. Early developments focused on traditional banking and payment systems, while recent advancements have introduced sophisticated tools like blockchain technology, roboadvisors, and peer-to-peer lending platforms. Shaikh and Amin (2023) note that the proliferation of mobile technology and internet connectivity has been pivotal in accelerating fintech adoption, particularly in emerging markets (Shaikh & Amin, 2023). This evolution has democratized access to financial services, enabling underserved populations to participate in the digital economy.

Research indicates that demographic factors, such as age, gender, and socioeconomic status, significantly impact fintech adoption rates. Younger individuals are more likely to adopt fintech solutions due to their tech-savviness and openness to innovation. Conversely, older populations may exhibit reluctance due to perceived complexities. Singh et al. (2024) highlights that financial literacy acts as a critical moderator, enhancing users' perceived ease of use and usefulness of fintech tools (Singh et al., 2024). Additionally, targeted educational programs have been shown to improve adoption rates by reducing barriers and fostering user confidence (Setiawan et al., 2021).

METHODOLGY

The study adopts a descriptive research design to investigate the relationship between financial literacy and fintech adoption. This approach is suitable suitable for understanding the behavioral patterns, attitudes, and perceptions of students towards fintech adoption based on their financial literacy by utilizing structured questionaires to collect data. Target population consists of 300 students from various faculties in UNIMAS out of 13,521 undergraduate and 1,417 postgraduate students. A random sampling method ensures the diversity across gender, current education levels, faculty, age, and income. The questionaire is structured into 6 sections: demographic financial knowledge, financial behaviour, fintech adoption, perceived usefulness and digital literacy. Likert Scales is used as an evaluation method for the questionaire.

Both descriptive and inferential statistics are employed in data analysis. Descriptive statistics summarize demographic characteristics and financial knowledge. On the other hand, inferential statistics including correlation and regression analysis help to identify relationships

between variables. The study also tests hypotheses to determine how financial knowledge, financial behavior, perceived usefulness and digital literacy influence fintech adoption rate.

Conceptual Framework

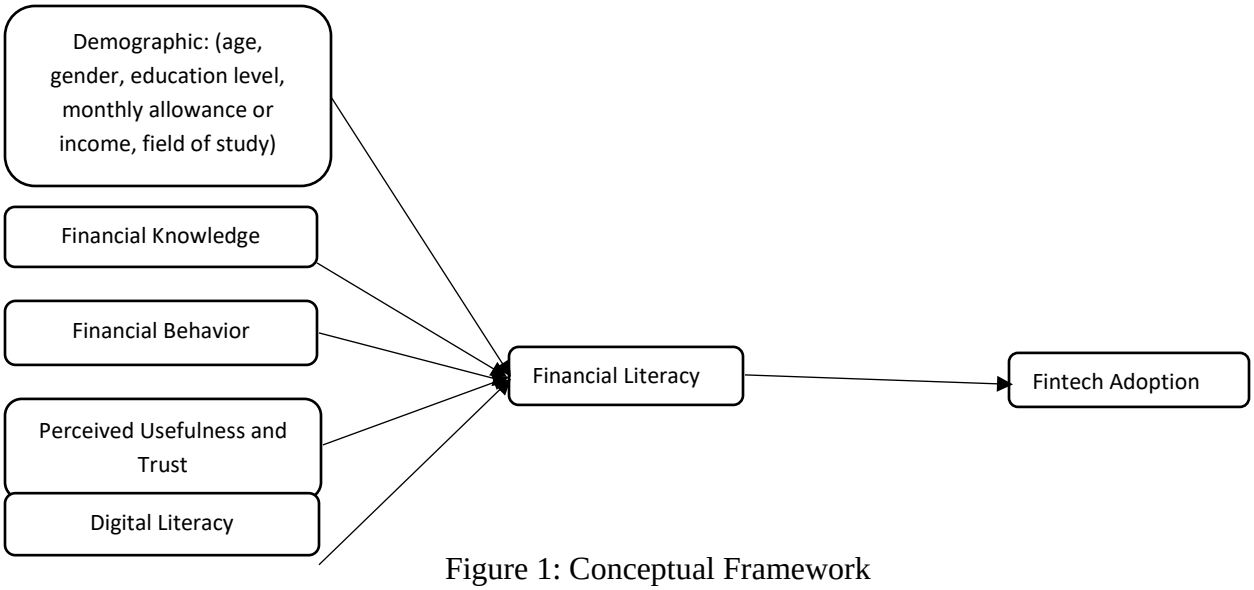

Figure 1: Conceptual Framework

Statement of Hypothesis

Based on the research objectives, the following hypotheses were formulated and tested:

H1: There is a significant positive relationship between financial literacy and the adoption of Fintech services among the UNIMAS community.

H2: The level of financial literacy significantly impacts the perceived ease of use of Fintech services.

H3: Financial literacy positively influences financial behavioral and trust in Fintech services, leading to higher adoption rates.

H4: Demographic factors such as age, gender, and field of study moderate the relationship between financial literacy and the adoption of Fintech services.

H5: Individuals with higher financial literacy are more likely to perceive Fintech services as useful and trustworthy compared to individuals with lower financial literacy.

Estimation Model

$$\boldsymbol{FARi = \alpha + \beta 1 FKi + \beta 2 FBi + \beta 3 PUTi + \beta 4 DLi + \epsilon i}$$

Where:

- $\boldsymbol{FARi}$: Fintech Adoption Rate
- $\boldsymbol{\alpha}$: Constant term
- $\boldsymbol{FKi}$: Financial Knowledge
- $\boldsymbol{FBi}$: Financial Behavior
- $\boldsymbol{PUTi}$: Perceived Usefulness and Trust
- $\boldsymbol{DLi}$: Digital Literacy

- $\boldsymbol{\varepsilon}$: Error term: accounting for variability not explained by the model.
- $\boldsymbol{\beta 1}$, $\boldsymbol{\beta 2}$, $\boldsymbol{\beta 3}$, $\boldsymbol{\beta 4}$: Coefficients represent the effect of each independent variable on the dependent variable.

FINDINGS

Demographic Section

Table 1: Demographic Section

Section	Category	Frequency	Percentage (%)
Gender	Male	58	38.16
	Female	94	61.84
Age	Below 20	37	24.34
	20-25 years old	112	73.68
	Above 25 years old	3	1.97
Education Level	Pregraduate	11	7.24
	Undergraduate	135	88.81
	Postgraduate	6	3.95
Monthly Income/Allowance	Below RM500	79	51.97
	RM500-RM1000	52	34.21
	Above RM1000	20	13.16
Faculty	Alam Bina	12	7.89
	Ekonomi dan Perniagaan	43	28.29
	Kejuruteraan	12	7.89
	Pendidikan Bahasa dan Komunikasi	13	8.55
	Perubatan dan Sains Kesihatan	12	7.89
	Program Asasi Sains	11	7.24
	Sains dan Teknologi Sumber	13	8.55
	Sains Kognitif dan Pembangunan Manusia	12	7.89
	Sains Komputer dan Teknologi Maklumat	12	7.89
	Seni Gunaan dan Kreatif	12	7.89

Table 1 shows the demographic profile of the respondents who participated in this study. Out of 200 responses collected in this study, only 150 responses are usable and reliable for this study. In terms of gender distribution, the majority of the respondents are female, comprising 94 participants (61.84%) of the sample. In contrast, male participants account for 58 respondents (38.16%). This indicates that the female respondents represent a significantly larger portion of the sample. The higher representation of female respondents suggests a potential gender gap in fintech adoption, as studies indicate that women often exhibit lower adoption rates compared to men (Juita, V., et al., 2023). According to a study by Chen et al., (2023), women are less likely to use fintech services, with only 21% of women adopting fintech services compared to 29% of men. This could have implications for targeting fintech services and marketing strategies among university students, particularly with regard to gender.

Regarding age distribution, the largest group consists of individuals aged between 20-25 years, with 112 respondents (73.68%). The second-largest group is those below 20 years old, making up 37 respondents (24.34%). Only a small proportion, 3 respondents (1.97%), fall into the category of being above 25 years old, indicating a younger age demographic among the respondents. The predominance of respondents aged 20–25 years aligns with the typical age group of university students, suggesting that this demographic is more inclined to adopt fintech services. According to Aggarwal, R., and Bhardwaj, M. (2014), younger individuals are more likely to adopt mobile banking and fintech applications due to higher levels of technological familiarity and financial literacy. The younger demographic is often more open to using innovative technology, which includes the use of fintech services, thereby increasing their adoption rate (Guild, J. 2017).

The education level of the respondents shows that the overwhelming majority are undergraduate students, with 135 respondents (88.81%). A smaller number of participants are at the postgraduate level, totaling 6 respondents (3.95%). Additionally, 11 respondents (7.24%) indicated they are in the pre-graduate phase, which represents a small but notable segment. The higher representation of undergraduates suggests that the participants are mostly in their early academic stages, and such students tend to be more familiar with digital technology. This aligns with studies indicating that individuals with higher education levels are more likely to adopt fintech services due to increased financial literacy and technological proficiency (Khan, N. et al. 2025). Furthermore, students in undergraduate programs are generally exposed to new technology in their curriculum, which likely increases their willingness to explore and use fintech services.

When analyzing the monthly income or allowance, a significant portion of respondents, 79 participants (51.97%), report earnings below RM500. A smaller group (52 respondents, 34.21%) earn between RM500 to RM1000, and 20 respondents (13.16%) report earning above RM1000. The majority earning below RM500 suggests that many respondents come from a lower-income bracket. Research indicates that individuals with moderate to low-income levels are more likely to adopt fintech services, particularly for budgeting and financial management. According to Vines, J., et al, (2014), lower-income individuals often turn to digital financial solutions for more efficient and affordable ways to manage their finances, especially in terms of savings, budgeting, and payments.

The data on faculty representation shows that the majority of respondents are from the Faculty of Economics and Business (43 participants, 28.29%). Other notable faculties include the Faculty of Education and Communication (13 participants, 8.55%) and the Faculty of Engineering (12 participants, 7.89%). The relatively even distribution of respondents across various faculties may indicate that fintech adoption is not restricted to any one academic discipline. However, faculty-related exposure could influence fintech adoption rates. According to Yáñez-Valdés and

Guerrero, (2023), students from faculties such as economics, business, or technology tend to have more exposure to financial services and digital tools, making them more likely to engage with fintech platforms.

Financial Knowledge

Table 2: Financial Knowledge Descriptive Analysis

Question	Score					Mean	Mode	Median	Standard Deviation
How familiar are you with the following financial concepts? [Interest Rate]	Very Familiar	Familiar	Neutral	Unfamiliar	Very Unfamiliar	3.7237	4	4	1.0242
	39	52	46	10	5				
How familiar are you with the following financial concepts? [Inflation]	Very Familiar	Familiar	Neutral	Unfamiliar	Very Unfamiliar	3.9145	4	4	0.9896
	48	59	33	8	4				
How familiar are you with the following financial concepts? [Savings account]	Very Familiar	Familiar	Neutral	Unfamiliar	Very Unfamiliar	4.1316	5	4	0.9184
	62	57	28	1	4				
Do you know how to calculate the interest on a loan or savings account?	Yes			No		3.1316	5	5	2.0022
	81			71					
How often do you track your monthly expenses?	Always	Often	Sometimes	Rarely	Never	3.5066	3	3	1.0164
	28	46	59	13	6				
I feel confident in planning a personal budget.	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree	3.5526	4	4	0.9119
	23	57	55	15	2				
I believe that managing finances is important for achieving long-term goals.	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree	4.4408	5	5	0.8669
	91	47	8	2	4				
How often do you save a portion of your income?	Always	Often	Sometimes	Rarely	Never	3.6184	3	4	0.9962
	33	48	55	12	4				
How often do you research	Always	Often	Sometimes	Rarely	Never	3.0592	3	3	1.2138

financial products (e.g., loans, credit cards) before using them?	21	37	40	38	16				

Table 2 shows the descriptive analysis of financial knowledge based on responses to nine questions. The responses were measured on a five-point Likert scale ranging from 5 to 1, depending on the number of options, researcher use average points for each options based on five-point Likert scale. There are few type of options provided, “Very Familiar” (5) to “Very Unfamiliar” (1), “Always” (5) to “Never” (1), “Yes” (5) to “No” (1), “Strongly Agree” (5) to “Strongly Disagree” (1).

In Question 5 respondents reported tracking monthly expenses with moderate frequency, reflected by a mean of 3.5066, mode and median of 3, and a standard deviation of 1.0164. While some students always or often track their spending, a sizable group admitted to only doing it "Sometimes" or "Rarely." These patterns suggest inconsistent budgeting habits, which could be addressed by fintech features such as automated budgeting tools or spending alerts. Previous research emphasizes the importance of expense tracking in maintaining financial health and improving technology-driven financial engagement (Ergün, 2018), as well as the role of expense management in promoting better financial stability and decision-making (Nazara et al., 2024).

Encouragingly, despite these inconsistencies in expense tracking, in Question 7 students demonstrated a strong agreement on the importance of managing finances for achieving long-term goals. This question had the strongest agreement among all, with a mean of 4.4408, mode and median of 5, and a low standard deviation of 0.8669, indicating a strong consensus among students on the value of financial management. Such positive attitudes lay the groundwork for cultivating proactive financial behaviors and readiness to adopt financial innovations. Research supports that positive financial attitudes significantly influence behaviors like saving, budgeting, and fintech tool usage (Potrich et al., 2016), and that structured financial education models further reinforce these positive financial behaviors (Vieira et al., 2018).

However, this enthusiasm for financial management does not fully extend to the research habits regarding financial products. In Question 9 the habit of researching financial products showed the weakest response, with a mean of 3.0592, mode and median of 3, and the highest standard deviation of 1.2138 in this section. Responses were widely spread, with a substantial number rarely or never researching financial tools before using them. This raises concern, as it may leave students vulnerable to scams or poor product choices in the fintech space. Studies warn that a lack of due diligence can lead to financial mistakes, especially in digital environments where product information is abundant but often complex (Karim et al., 2023), and that expense tracking and active information-seeking behaviors are essential to achieving financial security and preventing financial fraud (Bhuvanapriya et al., 2024).

Although UNIMAS students display strong financial attitudes and moderate expense-tracking behaviors, there remains a critical gap in proactive research before adopting financial products. Bridging this gap through targeted financial education and enhanced fintech features could significantly enhance both financial security and digital finance engagement among students.

Financial Behaviour

Table 3: Financial Behavior Descriptive Analysis

Question	Score					Mean	Mode	Median	Standard Deviation
How often do you monitor your spending to ensure it stays within your budget?	Always	Often	Sometimes	Rarely	Never	3.8223	3	4	0.9636
	45	47	50	8	2				
What portion of your monthly income do you save regularly?	More than 20%	10%-20%	Less than 10%	None		3.3635	3.75	3.75	1.0297
	23	71	46	12					
How do you approach managing debt (e.g., credit cards, loans)?	Avoid debt completely	Only take necessary debt and repay on time	Occasionally delay repayment	Frequently struggle to repay		4.2105	3.75	3.75	0.7969
	67	76	7	2					
Have you ever invested in financial instruments such as mutual funds, stocks, or bonds?	Yes		No			2.2895	1	1	1.8757
	49		103						
How comfortable are you with taking financial risks (e.g., investme	Very Comfortable	Comfortable	Neutral	Uncomfortable	Very Uncomfortable	2.8355	3	3	0.8723
	5	22	78	37	10				

nts, business ventures)?									
How often do you set and follow a financial plan to achieve specific goals (e.g., education, buying a house)?	Always	Often	Sometimes	Rarely	Never	3.3618	3	3	0.9937
	21	45	58	24	4				
Do you maintain an emergency fund to cover at least three months of expenses?	Yes		No			3.5000	5	5	1.9429
	95		57						
How often do you make unplanned purchases that impact your budget?	Always	Often	Sometimes	Rarely	Never	3.3158	3	3	0.8568
	14	43	74	19	2				

Table 3 shows the descriptive analysis of financial behavior based on responses to eight questions. The responses were measured on a five-point Likert scale ranging from 5 to 1, depending on the number of options, researcher use average points for each options based on five-point Likert scale. There are few types of options provided, “Always” (5) to “Never” (1), “More than 20%” (5) to “None” (1), “Avoid debt completely” (5) to “Frequently struggle to repay” (1), “Yes” (5) to “No” (1), “Very Comfortable” (5) to “Very Uncomfortable” (1).

The descriptive analysis of the financial behaviors of UNIMAS students revealed several significant patterns. Regarding saving habits related to Question 2, the respondents had a mean score of 3.3635, with a mode and median of 3.75, and a standard deviation of 1.0297. The highest proportion of students indicated saving between 10%-20% of their income, or in some cases, less than 10%. This suggests that while saving is a recognized behavior among students, the amounts

saved are often small or irregular, possibly due to limited disposable income or inconsistent saving discipline. Furthermore, the variation in responses, indicated by the standard deviation of 1.0297, highlights the diverse saving habits within the student population. This could also point to the need for a more structured approach to savings, particularly focusing on building emergency funds and long-term financial planning. Promoting financial literacy and the importance of regular saving could encourage a more disciplined approach to money management, thus improving financial outcomes for students (Prempeh et al., 2024; Yahaya et al., 2023).

In terms of financial risk-taking related to Question 5, students displayed a modest comfort level, with a mean score of 2.8355, a mode and median of 3, and a standard deviation of 0.8723. A significant proportion of students reported being either "Neutral" or "Uncomfortable" with taking financial risks. This suggests that while some students may be open to financial risk, a large number of them are cautious, possibly due to a lack of understanding of how to manage risks effectively or fear of potential loss. The relatively low mean and the concentrated responses around "Neutral" or "Uncomfortable" reflect a hesitancy to engage in uncertain financial ventures. This cautious attitude could potentially hinder students' ability to take advantage of wealth-building opportunities over time, such as investing or entrepreneurial activities. Therefore, increasing financial education, particularly around risk management and the potential rewards of calculated risks, could help students become more confident in their ability to make sound financial decisions (Arofah, 2019; Mudzingiri et al., 2018).

Lastly, regarding impulsive or unplanned spending in Question 8, the mean score was 3.3158, with a mode and median of 3, and a standard deviation of 0.8568. Many respondents indicated that they make unplanned purchases "Sometimes" or "Often," which suggests that impulsive spending behaviors, likely influenced by emotions or peer pressure, are common among students. This trend reflects the influence of social and emotional factors on financial decision-making, leading to behavior that may not align with effective budgeting or long-term financial planning. The relatively high standard deviation (0.8568) further supports this, indicating that while some students may exercise control over their spending, others exhibit frequent impulsive buying tendencies. Impulsive spending can strain budgets and derail financial goals, particularly for students with limited financial resources. Raising awareness about the psychological triggers behind impulsive spending and providing strategies for better control, such as budgeting tools and mindfulness techniques, could help mitigate these behaviors and encourage more responsible financial habits (Hamdan et al., 2020; Aydin & Selcuk, 2019).

In conclusion, the financial behaviors of UNIMAS students indicate that while some positive financial habits like saving exist, students are also prone to impulsive spending and cautious financial risk-taking. Interventions aimed at improving financial literacy, with a focus on saving discipline, managing financial risks, and controlling unplanned spending, could significantly enhance their financial well-being.

Fintech Adoption

Table 4: Fintech Adoption Descriptive Analysis

Question	Score					Mean	Mode	Median	Standard Deviation
I plan to use fintech apps	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree	3.7829	4	4	0.8212

regularly in the future.	29	68	50	3	2				
How often do you use the following fintech services? [Mobile banking:]	Always	Often	Sometimes	Rarely	Never	4.2697	5	5	1.0227
	86	36	19	7	4				
How often do you use the following fintech services? [E-wallets (e.g., Grabpay, Touch 'n Go)]	Always	Often	Sometimes	Rarely	Never	3.8223	5	4	1.1223
	55	38	42	11	6				
How often do you use the following fintech services? [Investment apps (e.g., Luno)]	Always	Often	Sometimes	Rarely	Never	2.0592	1	2	1.2192
	10	12	21	43	66				
I find fintech apps (e.g., mobile banking, e-wallets) easy to use.	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree	4.2105	5	4	0.8887
	68	56	23	2	3				
Learning to use a new fintech app feels manageable given my financial skills.	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree	3.9211	4	4	0.8420
	40	66	42	2	2				

Table 4 presents the descriptive analysis of fintech adoption based on students' responses to six questions measured on a five-point Likert scale. The responses were categorized from "Strongly Agree" (5) to "Strongly Disagree" (1), and from "Always" (5) to "Never" (1). The researcher calculated the average points for each option to provide a more accurate understanding of students' financial behaviors. This method allows for clearer insights into how UNIMAS students engage with fintech services.

The analysis of Question 2 shows strong mobile banking adoption among students, with a mean score of 4.27, a mode and median of 5, and a standard deviation of 1.02. These results indicate that most students reported using mobile banking services "Always" or "Often," emphasizing the convenience and accessibility that mobile banking offers. The high level of engagement with mobile banking also reflects a shift towards digital-first financial services, with students clearly preferring to manage their finances via mobile applications. This trend aligns with broader global shifts toward mobile-first financial systems, where convenience and on-the-go access are key factors driving adoption (Amnas et al., 2023; Nugraha et al., 2022). The strong

preference for mobile banking highlights how students prioritize efficiency and flexibility when managing their finances.

Analysis for Question 5, students also reported positive perceptions regarding the ease of use of fintech apps, with a mean score of 4.21, a mode of 5, a median of 4, and a standard deviation of 0.89. Most students strongly agreed or agreed that fintech apps are easy to navigate, suggesting that usability is a crucial factor in their adoption. This high level of perceived ease of use aligns with the Technology Acceptance Model (TAM), which suggests that ease of use is one of the key factors influencing the adoption of new technology. As fintech apps are designed to be user-friendly, students are more likely to embrace them, seeing them as accessible and easy to operate without requiring extensive technical knowledge (Nugraha et al., 2022; Amnas et al., 2023). The positive perception of usability indicates that students are likely to continue using and adopting new fintech technologies in the future, as long as they remain simple to understand and interact with.

Additionally, Question 6 evidently shows that students expressed a relatively high level of confidence in learning new fintech apps, with a mean score of 3.92, a mode and median of 4, and a standard deviation of 0.84. The majority of respondents agreed or strongly agreed that they felt confident in their ability to learn how to use new fintech apps. This suggests that financial self-efficacy, the belief in one's ability to manage financial tasks—is strong among students. Students' confidence in learning new fintech tools can significantly enhance the adoption rate of emerging technologies, as it suggests that they are open to exploring and integrating new platforms into their financial routines. As more innovative fintech solutions emerge, students' willingness to adapt and learn will likely play a crucial role in their broader adoption across the student population (Bermeo-Giraldo et al., 2023; Singh et al., 2020). The confidence displayed by students in learning new apps suggests they are prepared to embrace digital financial solutions as their primary means of managing money.

In conclusion, the results indicate that UNIMAS students exhibit high levels of mobile banking adoption, perceive fintech apps as user-friendly, and feel confident in learning new financial technologies. These factors are likely to contribute to continued fintech adoption, highlighting the importance of ease of use and self-efficacy in technology acceptance.

Perceived Usefulness

Table 5: Perceived Usefulness

Question	Score					Mean	Mode	Median	Standard Deviation
I plan to use fintech apps regularly in the future.	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree	3.8158	4	4	0.7496
	27	73	50	1	1				
How often do you use the following fintech services? [Mobile banking:]	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree	3.7171	4	4	0.7495
	20	74	55	1	2				
How often do you use the following fintech services? [E-wallets (e.g., Grabpay, Touch 'n Go)]	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree	3.8881	4	4	0.7852
	32	76	41	1	2				
How often do you use the following fintech services? [Investment apps (e.g., Luno)]	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree	3.8158	4	4	0.767
	27	74	49	0	2				

Table 5 provides a descriptive analysis of the perceived usefulness of fintech services based on students' responses to four questions measured on a five-point Likert scale. The responses ranged from "Strongly Agree" (5) to "Strongly Disagree" (1), with the researcher calculating average scores for each option to better capture students' perceptions. This approach allows for clearer insights into how UNIMAS students view the benefits of fintech services.

The results of Question 1 show a strong intention to adopt fintech apps in the future, with a mean score of 3.8158, a mode of 4, a median of 4, and a standard deviation of 0.7496. The majority of students expressed "Agree" or "Neutral," with a smaller portion strongly agreeing. This suggests that while students are open to the idea of using fintech, there is still a gap between intention and actual usage. To move these students from moderate to committed users, further engagement, as well as improved financial literacy, may be necessary. Research indicates that the intention to use fintech is heavily influenced by its perceived usefulness, and students who find fintech apps beneficial are more likely to adopt them long-term (Arif et al., 2024; Bermeo-Giraldo et al., 2023). The desire to adopt fintech apps aligns with global trends, where convenience and accessibility are often key motivators for continued use.

Based on Question 3 in terms of specific fintech services, respondents showed high engagement with e-wallets, scoring a mean of 3.8881, with a mode and median of 4, and a standard deviation of 0.7852 for Question 3 analysis. Many students strongly agreed or agreed that they use popular platforms like Grabpay and Touch 'n Go. This strong usage trend suggests that students find e-wallets highly useful due to their convenience and practical benefits. The widespread adoption of e-wallets is consistent with findings from prior studies, which highlight that fintech

services offering seamless transactions, rewards programs, and clear benefits are more likely to see high levels of regular use (Acharya & Bhojak, 2024; Sumardi et al., 2022). The convenience of e-wallets has solidified their role in students' everyday financial activities, making them a core component of fintech adoption.

Regarding investment apps in Question 4, students also showed a significant level of engagement, with a mean score of 3.8158, a mode of 4, a median of 4, and a standard deviation of 0.7670. Many students reported regular use of investment apps, which challenges the assumption that younger individuals are hesitant to invest. This suggests a growing interest in personal finance, particularly among students, who may be influenced by social trends surrounding digital assets such as cryptocurrency. Research supports the notion that perceived usefulness and easy access to investment platforms encourage students to explore financial opportunities like investing (Xie et al., 2021; Salim et al., 2024). The engagement with investment apps reflects a shift in students' attitudes towards financial autonomy and growth, as well as an increased comfort with digital finance tools.

In summary, UNIMAS students display a strong willingness to adopt fintech services, particularly e-wallets and investment apps, with perceived usefulness playing a key role in their intentions and behaviors. However, further efforts in financial literacy and engagement are needed to convert initial interest into sustained usage.

Digital Literacy

Table 6: Digital Literacy Descriptive Analysis

Question	Score					Mean	Mode	Median	Standard Deviation
Do you own a smartphone or device that allows you to use fintech apps?	Yes			No		4.7105	5	5	1.0398
	141			11					
Do you have consistent internet access?	Yes			No		4.7368	5	5	0.9949
	142			10					
How confident are you in using mobile apps for financial transactions?	Very Confident	Confident	Neutral	Unconfident	Very Unconfident	3.8684	4	4	0.7947
	33	71	44	3	1				
Have you heard of the following fintech tools or services? [Mobile Banking]	Yes			No		4.6579	5	5	1.1224
	139			13					
Have you heard of the following fintech tools or services? [Per-to-peer lending]	Yes			No		2.5263	1	1	1.9495
	58			94					
Have you heard of the following fintech tools or services? [Cryptocurrency wallets]	Yes			No		3.1053	5	5	2.0038
	80			72					

Table 6 provides a descriptive analysis of digital literacy based on students' responses to six questions measured on a five-point Likert scale, with the responses ranging from "Yes" (5) to "No" (1) and “Very Confident” to “Very Unconfident.” The researcher calculated average scores for each option to better capture students' perceptions and digital literacy levels.

The Question 1 analysis reveals that students generally have high digital device accessibility, with a mean score of 4.7105, mode and median of 5, and a standard deviation of

1.0398. This indicates that nearly all students own a smartphone, which is the essential device for engaging with fintech platforms. With 141 respondents confirming their smartphone access, the findings suggest a robust infrastructure for fintech adoption. The high level of device ownership aligns with research indicating that access to digital devices plays a critical role in enabling fintech engagement (Mulyono, 2023; Islam & Khan, 2024). However, the relatively high standard deviation also suggests that there may be some variation in access among different students, which could affect their ability to use digital financial services.

In Question 3 the confidence in using mobile apps for financial purposes also showed positive results, with a mean score of 3.8684, mode and median of 4, and a standard deviation of 0.7947. Most students expressed confidence in using digital tools, indicating that they are comfortable with engaging in mobile financial activities. This confidence suggests that students are operationally proficient with digital technologies, which is essential for the successful adoption of fintech services (Dewmini et al., 2023; Adhikari et al., 2024). The relatively low standard deviation further supports the idea that confidence levels in using mobile apps for financial tasks are generally consistent among students.

However, based on Question 6 when it comes to familiarity with cryptocurrency wallets, the data revealed a mean score of 3.1053, mode and median of 5, and a high standard deviation of 2.0038. About half of the respondents (80 students) indicated some awareness of cryptocurrency wallets, reflecting growing exposure to digital asset tools. Despite this, the high standard deviation points to a significant variance in students' understanding of these digital financial tools. This discrepancy suggests that further education on cryptocurrency and blockchain technologies is crucial to ensure students can engage safely and knowledgeably with emerging digital financial assets (Mahat, 2024; Dewmini et al., 2023).

In summary, UNIMAS students demonstrate strong access to digital devices and confidence in using mobile apps for financial tasks, which positions them well for engaging with fintech services. However, their inconsistent familiarity with cryptocurrency wallets highlights the need for enhanced digital financial literacy programs, especially in emerging technologies such as blockchain and cryptocurrency, to ensure safe and informed usage.

Regression Results

Table 7: Regression Analysis

Variable	Coefficient	t-Statistic	Probability
Gender	-0.1187	-1.4490	0.1496
Age	0.0445	0.4451	0.6569
Current Education	-0.0975	-0.6137	0.5404
Faculty	0.1271	1.1779	0.2408
Income	0.0580	0.6797	0.4978
Financial Knowledge	0.1909	2.2952	0.0232
Financial Behavior	0.0509	0.5981	0.5507
Perceived Usefulness	0.2984	4.1892	0.0000
Digital Literacy	0.1199	1.9794	0.0497

Demographic factors such as gender and age were found to have no statistically significant influence on fintech adoption among UNIMAS students. The coefficient for gender was negative (-0.1187), but its probability value ($p = 0.1496$) indicated insignificance, suggesting that male and female students are equally likely to adopt fintech services. This aligns with recent studies showing that the gender gap in fintech adoption is narrowing, particularly among younger, tech-savvy populations (Bermeo-Giraldo et al., 2023). Similarly, the variable age had a positive coefficient (0.0445), but its insignificance ($p = 0.6569$) reflects that among students who generally fall within a similar age range where fintech usage is not age-dependent, consistent with findings that digital nativity reduces age disparities in technology use (Adhikari et al., 2024).

Educational background, including current education level and faculty affiliation, also showed no significant effect on fintech adoption. The coefficient for current education was -0.0975 ($p = 0.5404$), and for faculty, 0.1271 ($p = 0.2408$), both statistically insignificant. This suggests that whether students are in earlier or later stages of their studies, or whether they are enrolled in technical, business, or arts faculties, does not considerably alter their propensity to adopt fintech applications. Previous research similarly observed that fintech engagement is driven more by personal digital readiness than by academic major or year of study (Thuy et al., 2024).

Income, often hypothesized as a barrier to technological adoption, also did not significantly influence fintech adoption behavior (coefficient = 0.0580, $p = 0.4978$). This could be attributed to the relatively low cost and high accessibility of many fintech services targeted toward students, such as free mobile banking and e-wallet apps. Fintech's democratization of financial services enables broader usage across income groups, which supports the idea that income is no longer a strict determinant of fintech participation (Islam & Khan, 2024).

The overall results suggest that factors traditionally thought to influence technology adoption, such as gender, age, education, faculty, and income, are not as influential in determining fintech adoption among students at UNIMAS. This highlights the growing importance of digital readiness and accessibility, which seem to be the primary drivers of fintech engagement, particularly in a university setting where students are typically tech-savvy and have access to affordable digital financial services.

Among the psychological and behavioral factors, financial knowledge emerged as a significant predictor of fintech adoption (coefficient = 0.1909, $p = 0.0232$). Students with higher financial literacy levels were more likely to engage with fintech platforms, supporting the widely recognized link between financial education and proactive financial behaviors (Nugraha et al., 2024). However, financial behavior itself (coefficient = 0.0509, $p = 0.5507$) was not a statistically significant predictor. This outcome suggests that while students may practice sound financial habits such as saving and budgeting, these behaviors alone do not necessarily translate into fintech usage without sufficient financial understanding (Ali et al., 2024).

Perceived usefulness played the strongest role in influencing fintech adoption, with the highest positive coefficient (0.2984) and a highly significant p-value (0.0000). This result reinforces the Technology Acceptance Model (TAM), which highlights perceived usefulness as a critical driver for technology acceptance (Pai & Huang, 2011). Students who recognize the efficiency, convenience, and value added by fintech tools are far more inclined to integrate them into their daily lives. The insignificance of financial behavior contrasted with the strong impact of perceived usefulness highlights that cognitive perceptions of technology benefits are more decisive than habitual financial actions when it comes to adopting digital finance solutions (Bermeo-Giraldo et al., 2023).

Finally, digital literacy was also significantly associated with fintech adoption (coefficient = 0.1199, p = 0.0497), emphasizing that students who are more competent with digital technologies are more comfortable exploring and utilizing fintech services. Digital literacy equips users with the confidence to navigate applications securely and efficiently, reducing perceived barriers and enhancing usage intention (Mishra et al., 2024; Thuy et al., 2024). In summary, financial knowledge, positive perceptions toward fintech usefulness, and digital skills collectively form a strong foundation for fostering fintech adoption among university students.

Diagnostic Test

Table 8: Diagnostic Test

Normality Test	Jarque-Bera	12.8733
	Probability	0.0016
Breusch-Godfrey Serial Correlation LM Test	F-Statistic	0.6955
	Prob Chi Square (2)	0.4735
Heteroskedasiticity Test Breusch-Pagan-Godfrey	F-Statistic	1.6779
	Prob Chi Square	0.1022

The diagnostic tests conducted during the regression analysis serve as essential tools in evaluating the reliability of the regression model. These tests assess various assumptions such as normality, serial correlation, and heteroskedasticity, which could influence the validity of the results. In this section, we interpret the results from the tests conducted in EViews13, including the Normality Test, Breusch-Godfrey Serial Correlation LM Test, Heteroskedasticity Test (Breusch-Pagan-Godfrey), and their implications. These tests are crucial in ensure that the linear regression model's assumptions the estimators remain accurate and consistent (Gujarati & Porter, 1992).

Normality Test

The Normality Test for the regression model was conducted using the Jarque-Bera statistic, which tests whether the residuals follow a normal distribution. The test yielded a calculated value of 12.8733 with a probability of 0.0016, significantly lower than the 0.05 threshold, leading to the rejection of the null hypothesis of normality. This result suggests that the residuals from the regression model are not normally distributed. Non-normal residuals may indicate model misspecification or the presence of outliers, which can affect the reliability of the estimated coefficients. The violation of normality could lead to biased standard errors, thus impacting the accuracy of inference regarding the model's coefficients. As noted by Kakinuma (2022), digital literacy, similar to financial literacy, can influence adoption patterns, and issues like model misfit should be addressed carefully in such studies. Ben Douissa (2020) also supports this, suggesting that socio-economic factors can lead to non-normal financial behavior data, particularly among university students, thus warranting closer attention to model fit and residual distribution.

Breusch-Godfrey Serial Correlation LM Test

The Breusch-Godfrey Serial Correlation LM Test was conducted to assess the presence of serial correlation in the regression residuals. The test produced an F-statistic of 0.6955 with a probability value of 0.4735, which is greater than the 0.05 significance level, indicating no evidence of serial correlation in the residuals. The absence of serial correlation suggests that the residuals are independent over time, meaning that the model does not suffer from autocorrelation, a common

issue that can lead to inefficient estimates and erroneous conclusions. These findings align with the work of Firmansyah et al. (2022), who emphasized that factors such as trust and financial literacy can influence fintech adoption without significant temporal dependencies in financial data. Similarly, Albeerdy and Gharleghi (2015) found that financial literacy can impact financial decisions without inducing autocorrelation, ensuring that the model's results are valid over time.

Heteroskedasticity Test (Breusch-Pagan-Godfrey)

The Breusch-Pagan-Godfrey test for heteroskedasticity was applied to check whether the variance of the residuals is constant across observations. The F-statistic for this test was 1.6779, with a probability value of 0.1022, which is greater than the 0.05 significance level, indicating that there is no evidence of heteroskedasticity. The lack of heteroskedasticity implies that the variance of the residuals is constant, regardless of the size of the independent variables. This is important because heteroskedasticity can lead to inefficient estimations and unreliable hypothesis testing. The findings are consistent with those of Nugraha et al. (2022), who demonstrated that financial literacy plays a significant role in fintech adoption, particularly when considering the consistency of error variance. Additionally, Herawati and Dewi (2020) highlighted that financial literacy can positively influence investment decisions without heteroskedasticity, ensuring stable and reliable predictions about future behaviors.

CONCLUSION

This study provides significant insights into the interplay between financial literacy and fintech adoption among university students, specifically those at UNIMAS. Findings indicate that financial literacy plays a pivotal role in influencing students' perceptions of fintech services and subsequently their adoption rates (Nugraha et al., 2024). The established relationship between financial knowledge and fintech adoption emphasizes the necessity for universities to integrate comprehensive financial education into their curricula. Comprehensive educational initiatives can enhance students' financial knowledge, empowering them to effectively utilize fintech solutions in an increasingly digital economy (Ali et al., 2024).

Furthermore, the research revealed that perceived usefulness emerged as the most substantial predictor of fintech adoption, reinforcing the Technology Acceptance Model (TAM) that highlights the importance of users' cognitive perceptions regarding the utility of technology (Pai & Huang, 2011). Students who recognized the benefits and efficiency of fintech tools demonstrated a significantly higher likelihood of integrating these technologies into their financial management practices. When institutions emphasize the practical applications and advantages of fintech systems, they foster a more favorable environment for technological acceptance among students (Bermeo-Giraldo et al., 2023).

Analyzing demographic factors such as age and gender further revealed interesting patterns; these variables did not significantly influence fintech adoption in the context of this study. Such results may reflect a broader trend in which younger individuals, regardless of gender, exhibit increased comfort with digital financial solutions (Juita et al., 2023). Despite this, the observed gender disparity in participation rates indicates potential gaps that require attention. Research has shown that women tend to adopt fintech services at lower rates compared to their male counterparts (Chen et al., 2023). Addressing specific barriers that hinder female students from engaging with fintech services fully is paramount.

The implications of this research extend beyond academia, holding significant relevance for policymakers and financial service providers. Understanding the relationship between financial literacy and fintech adoption allows stakeholders in the education sector, such as the Kementerian Pendidikan Tinggi Malaysia, to shape targeted financial literacy programs designed to equip students with the necessary skills to navigate digital finance effectively (Shaikh et al., 2020). Additionally, financial service providers can tailor their products and services to meet the unique needs of young users, thereby promoting greater financial inclusion across the country.

Financial institutions should prioritize enhancing financial literacy among university students by offering accessible educational resources and tools tailored to this demographic. By integrating financial literacy programs into their service offerings, institutions can empower students with the knowledge to navigate and adopt fintech services confidently. For instance, mobile banking apps and e-wallet providers could partner with universities to offer workshops or in-app tutorials that explain key financial concepts and the benefits of digital finance solutions. Research shows that financial literacy increases trust in fintech platforms, which, in turn, promotes higher adoption rates (Lusardi & Mitchell, 2014). This proactive approach would not only expand the user base but also foster responsible financial behaviors among students, contributing to long-term financial inclusion.

Financial institutions should enhance financial literacy among university students by offering accessible resources tailored to this demographic. By integrating financial literacy programs into their services, institutions can help students confidently adopt fintech solutions. For example, partnerships with universities for workshops or in-app tutorials can improve understanding of financial concepts and digital finance benefits. Research shows that financial literacy increases trust in fintech, promoting higher adoption rates (Lusardi & Mitchell, 2014), and fostering responsible financial behaviors that contribute to long-term inclusion.

Policymakers should integrate financial literacy programs into higher education curricula, addressing the knowledge gap related to fintech adoption. Collaborating with universities to implement mandatory courses focusing on digital finance tools will equip students with the necessary skills. Studies show that countries with robust financial education frameworks have higher fintech adoption rates, contributing to economic resilience (OECD, 2023).

In summary, this study highlights the importance of financial literacy in driving fintech adoption among UNIMAS students. Financial institutions and policymakers should focus on enhancing financial education and promoting fintech's perceived usefulness. As students become more informed, their engagement with digital financial solutions will increase, fostering financial resilience. Future research should explore longitudinal studies to track changes in financial literacy and fintech adoption and identify interventions to bridge gaps among underrepresented groups.

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