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Security of E-Payment on Technology Acceptance Model Among the College Students

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ABSTRACT

This study explored e-payment systems and expands users' knowledge of their advantages and limitations. Given the growing variety of e-payment options, this research examined their convenience and security in facilitating transactions while identifying factors that influenced user adoption. Instead of focusing on a single platform, the study provided a broad analysis of e-payment experiences among college students. Specifically, this research investigated how security perceptions influence e-payment adoption among college students, utilizing the Technology Acceptance Model (TAM). Key factors such as perceived security, trust, perceived usefulness, perceived ease of use, and intention to adopt e-payment systems are analyzed.

A quantitative approach was employed using a descriptive and mediation research design. Data were collected through an adopted survey questionnaire and analyzed using descriptive statistics, and mediation analysis in Jamovi. The actual study executed a quantitative descriptive and mediation research design by purposely sampling 364 of college students from NU Baliwag.

NU Baliwag students generally regard e-payment systems as secure, trustworthy, useful, and easy to use. The mean rating for these factors indicates that students are either "ready" or "very Ready" to adopt them. Mediation analyses, however, showed that these perceptions were not significantly influencing students' intentions to use e-payments, which indicates that other factors were to be considered in their adoption decisions. Overall, while students appreciate the benefits and security features of e-payments, these aspects alone are not enough o drive widespread usage.

The study found that while students in NU Baliwag view e-payment systems are safe, trustworthy, useful, and easy to use, these factors do not have a direct influence on their level of intention to adopt it. It recommends that future researchers take the initiative to increase user involvement in awareness campaigns, integrate e-payments into students, and introduce a phased-in adoption approach.

Keywords: College Students, Correlational Research Design, E-Payment Adoption, Perceived Security, Perceived Usefulness, Trust, Perceived Ease of Use, TAM

Introduction

Back then, anytime we needed to buy something, it was always required to go to the actual store, where the only option for payment was through cash. It had its advantages; you could check out the item you bought if there were any defects or missing items. But to think about the travel time you had before going to the store, the energy you consumed in taking the public transport, and plus the energy after walking, in case the store you were looking for was far behind the road. This was the part where you got to think of the situation where "Is this thing really worth it?" But good thing, with the help of modern technology, one of the things that was considered in improving was the buyer's experience. Fortunately, there were people who saw the gap in every frustration of every buyer in paying. They saw the idea of how we could utilize such technology, if it helped through our everyday life, might as well help us through our hobbies in shopping, our experience around it. That was why, slowly, electrical payments or e-payments had its platform, it was recognized by a lot of people, especially for people who prioritized convenience for everything. Now, e-payments are well-known nationwide, its huge exposure required even the huge establishments to have e-payments as one of their payments for consumers, as it also encouraged people to buy from them. Since it was known by a lot of people, it also became accessible for almost everyone, including students, just with a phone and a mobile data, they could easily learn and transact with their own e-money.

The researchers saw the capability of e-payments and they would like to know how powerful it is for everyone. Salloum and Al-Emran (2018) found that trust is a major determinant of perceived usefulness, perceived ease of use, and actual adoption of e-payment systems among university students. What little research there is suggests that boosting trust may lead to higher take up rates of these technologies. The effect of e-

payment system security on consumer behavior in e-commerce was investigated by Ardiansah et al. (2020) who found that perceived security has an impact on perceived usefulness and ease of use of e-payment systems, which in turn affects purchase intentions. In a study on the determinants of e-payment service adoption among university students, Cheong and Nasuredin (2023) opined that perceived security was among the key factors that influenced the adoption of these systems. Similarly, Groyon et al. (2024) found that the level of acceptance of selected National University Baliwag students in using Paynamics for tuition fee payments was influenced by factors such as trust, ease of use, and convenience. Reynon et al. (2023) further emphasized that consumers' attitudes toward online payment systems are influenced by perceived risks, which may hinder adoption.

Starting from how it encouraged them to use it in the first place, did it push them to use it for convenience or just pure pressure from society. E-payments were not very hard to learn at all, which was why even to students, it was very accessible and easy to use. Just a phone in hand, people could make their account, if they had not reached a certain age, e-payment platforms also have their offered to have parental guidance and permission to such accounts. With that in mind, e-payment platforms ensured their application were more user-friendly, this made people choose what was better to use and what was not.

The researchers found the gap in e-payments was where people are held back in using them, usually due to lack of internet connection or mobile data, some were unaware on how they could input their money for e-payment, and some did not trust e-payment at all. Raon, De Leon, and Dui (2021) emphasized that trust and security remained key barriers to the widespread adoption of e-payment systems in the Philippines, as many users were concerned about data privacy and fraud risks. Lastrollo and Sario (2023) also noted that the effectiveness of payment schemes among private higher education institutions was influenced by strategic policies that ensure security and ease of transactions. They saw that people were not just assured on how they could utilize their e-payment and not exposing too much of their private information at the same time. Especially to the fact, where scams are quite witty about their way of getting into people's private information, including their e-payment password and security. Texts were always their way of scamming people by clicking some links, asking for their own password as to where certain "unexpected things" happened, or even telling them that their e-wallets were being hacked and need to click another link. That was why, the researchers aimed to promote, especially to students, not only the assurance but also the security that they have and their money in e-payments.

The researchers aim to almost convince the students in utilizing the e-payments, on how it promoted convenience for their shopping experience, with just a few clicks along with certain security measures, students could buy anything they wanted online. Groyon et al. (2024) highlighted that awareness and education on e-payment security measures are essential in increasing student trust and adoption of such systems. Reynon et al. (2023) further stressed that consumers' awareness of risks in online payment systems significantly affected their willingness to use them. With this, they wanted to show to the students that there was nothing to be afraid of embracing the beauty of e-payments, it did not expose their whole existence, since e-wallet platforms would not risk the business getting out of hand with the money and effort they invested on it. With that, e-payments became only be convenient for everyone.

Theoretical Framework

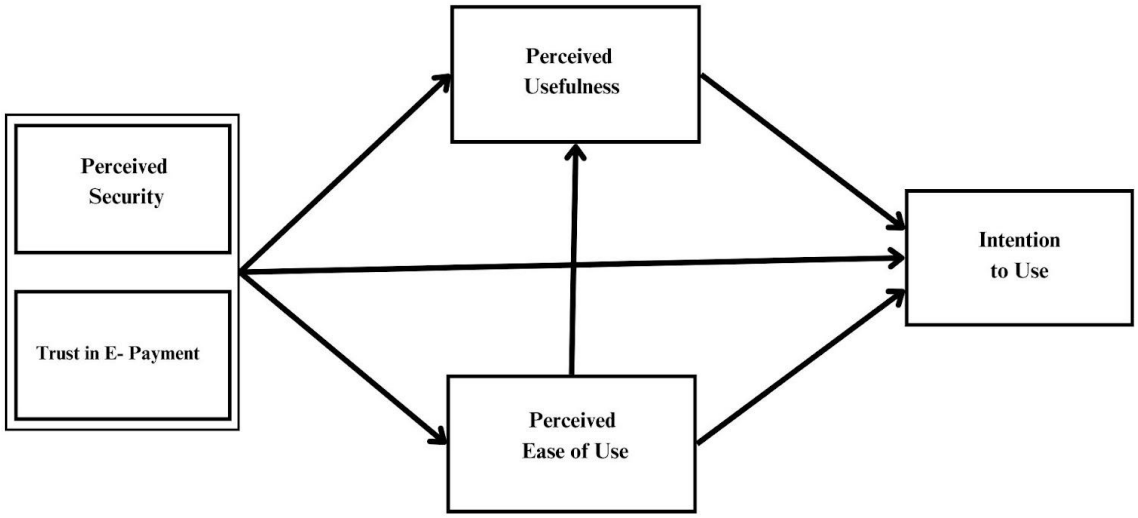
The Technology Acceptance Model (TAM) was used in this study to ascertain how college students felt about the security of the e-payment system. Perceived security, trust, perceived usefulness, perceived ease of use, and the intention to use electronic payment systems were all highlighted in the study. Perceived usefulness and perceived ease of use were the two primary components of technology adoption, according to TAM, which was initially created by Davis (1989). To acknowledge their influence on users' views of usefulness and ease of use, researchers have gradually included perceived security and trust to this model. Therefore, security influenced both usefulness and ease of use leading to the ability or unwillingness of users toward adopting and then using e-payment systems.

According to Zhou (2011), TAM can be extended, incorporating perceived security and trust issues into mobile payments adoption research highlighting their importance when shaping user acceptance. A lack of security in e-payment systems may be deemed to inhibit user trust and thus reduce the perception of the system as useful or easy to use. The user is more likely to trust the e-payment system, perceive it as beneficial, and find it easier to determine if they believe that the system is secure. Therefore, security issues need to be addressed to increase trust and provide a better impression for users, which in turn would increase usage among college students.

Conceptual Framework

Using the conceptual framework of the Technology adoption Model, this study defined key concepts for understanding the adoption of e-payment systems among college students. TAM defined how people adopted and used technology based on perceived usefulness, ease of use, security, and trust. Perceived security was the degree to which customers believed an e-payment system was devoid of fraud, abuse, or data manipulation, influencing their willingness to use it. Trust was described as users' confidence in the reliability, security, and safety of their personal and financial information in the e-payment system. Perceived usefulness was the perception that an e-payment system improved efficiency by making financial transactions easier, boosting the possibility of adoption. Perceived ease of use indicated how user-friendly and accessible an e-payment system was, requiring little effort to use and so increased student uptake. Individuals' preparedness and intention to use an e-payment system were impacted by their opinions of its security, trustworthiness, utility, and simplicity of operation. To use TAM in the study, the researchers analyzed how Perceived Usefulness and Perceived Ease of Use affected college students' adoption of e-payment systems. To apply the PU model, the researchers examined whether students found e-payment systems useful and effective for fast transactions. As for the PEU, the researchers assed whether the students found e-payment apps simple and efficient.

In terms of security concerns, the researchers investigated whether the students found it hard to do e-payments due to scammers, hackers or anything that risked their private account that affected their willingness to do e-payments. Lastly, their intention to use was analyzed by examining how PU, PEU, and security concerns influenced the students' willingness to do e-payments.



Research Questions

General Objectives:

This study aims to determine how the security of e-payment system influence the adoption of e-payment among college students using the Technology Acceptance Model (TAM).

Specifically, it aims to answer the following questions:

1. How may perceived security and trust on security of e-payment be described?

2. How may Technology Acceptance Model (TAM) on e-payment adoption be described in terms of:

    2.1 Perceived Usefulness

    2.2 Perceived Ease of Use

    2.3 Intention to Use

3.Do student's perceived usefulness and perceived ease of use significantly influence the relationship between security, trust and intention to use?

Significance of the Study

This study is significant because it explores the importance of security in the adoption of e-payment systems among college students using the Technology Acceptance Model (TAM). Understanding how perceived security and trust affect students' acceptance of e-payments might help improve digital payment platforms and boost user confidence. This study benefit college students, who are the primary users of e-payment systems, by providing information about e-payment system security, allowing them to make better informed decisions about their digital transactions. The study's findings can assist educational institutions and e-payment service providers in implementing policies and security measures to promote safer and more efficient digital payment systems. By addressing security concerns, this research contributes to the overall goal of increasing confidence and the use of e-payment technology. Future researchers can use this study as a reference for further research on e-payment security and technology adoption, therefore expanding their understanding of the issue.

Scope and Delimitations

This study aimed to investigate the influence of e-payment system security on the adoption of e-payment among college students using the Technology Acceptance Model (TAM). It examined how students viewed the security of e-payments, how security issues affected trust, and how perceived usefulness and ease of use influenced their adoption decisions. This study focuses only on college students at National University Baliwag.

This research conducted for four months at National University-Baliwag in the 2nd term of the 2024-2025 academic year. The participants are college students and selected from four academic units the School of Business and Accountancy (SBA), the School of Engineering, Architecture, and Technology (SEAT), the School of Arts and Sciences (SEAS), and the School of Tourism and Hospitality Management (STHM). To provide equitable participation across departments and year levels, stratified random sampling was used. A Likert scale survey questionnaire was used to gather quantitative data for the study, guided by a descriptive and mediation research design. A quantitative research design instrument was adopted and will serve as a main data collection instrument.

Methods

Research Design

This study followed a quantitative research method, specifically descriptive and mediation technique. The descriptive part provided a thorough examination of e-payment security and its link to important criteria in the Technology Acceptance Model (TAM), such as perceived security, trust, usefulness, ease of use, and intention to use among college students. Meanwhile, the mediation analysis was used to looked for statistical relationship between these factors, specifically if perceived usefulness and perceived ease of use play a major role in mediating the link between security, trust and intention to use e-payment systems. This research approach was useful because quantitative analysis enables objective measurement of variables and gives statistical data to support theories. The used of a Likert scale in surveys provides the quick collection of numerical data. Furthermore, the mediation technique was consistent with the study's goal of identifying the degree of the relationship between security perceptions and TAM elements, which provides insights into how security influence students' acceptance of e-payment systems.

Respondents

The respondents of this study are the college students at National University–Baliwag. Respondents were selected from four academic units the School of Business and Accountancy (SBA), School of Engineering, Architecture, and Technology (SEAT), School of Arts and Sciences (SEAS), and the School of Tourism and Hospitality Management (STHM), had varying levels of familiarity and experience with e-payment systems. With that, the responses compiled provided valuable insights into one of the factors in influencing the e-payment adoption, specifically security and trust. The sample size was determined using Slovin’s formula n=N1+Ne, it was applied to determine the right number of participants for reliable and accurate results. The researchers used the stratified random sampling to ensure that the responses the researchers will gather are accurate to the research scope, with 79 from SBA, 172 from SEAT, 4O from SEAS, and 73 from STHM. This approach ensures an unbiased selection process, making the study's findings more reflective of the broader college student population.

Instrument

The survey questionnaire was adopted to measure quantitative data. It was used to assess the major trends that affected the level of adoption of e-payment systems among college students. These trends included perceived security, trust, perceived usefulness, perceived ease of use, and intention to use. To ensure reliable and consistent measurement, a 4-item Likert scale (Strongly Agree to Strongly Disagree) was used to assess the extent to which respondents held that opinion regarding e-payment adoption.

This instrument was adapted from Basana et al. (2022) in their study "The Effect of Perceived Security, Perceived Ease of Use, and Perceived Usefulness on Consumer Behavioral Intention Through Trust in Digital Payment Platforms". This instrument assessed how perceptions of security affected users' trust and willingness to use online payment transactions. Given the fact that concerns related to security were commonly major barriers preventing the adoption of digital payments, it was predicted that this variable would be of interest in determining the extent to which students' confidence in e-payment systems was affected by it. Other scales on e-payment adoption were developed by Wendy et al. (2013), among others, to ensure a complete evaluation of the factors affecting students' acceptance of various digital payment platforms. To enhance reliability, the specific measures were then piloted through a field study and discussions with a panel of five experts in Fintech and digital transactions in general.

Although there were multiple types of instruments to assess several variables, this study adopted measurement items from Aldmour et al. (2021), which focus on perceived usefulness, perceived ease of use, and intention to use, in their article "Technology Acceptance Dynamics and Adoption of E-Payment Systems: Empirical Evidence from Jordan." This instrument aimed to capture the perceptions of users regarding the perceived benefits and ease of use of e-payment systems, thereby influencing their intent to adopt and use them. Understanding these perceptions became pivotal as for many of those in universities using fast and easy financial transactions, ease of use and perceived usefulness are principal drivers of technology acceptance.

The adopted survey questionnaires were previously validated with Cronbach's alpha. The results indicated that all constructs in the study were all reliable. PS with (0.848) is highly reliable, while T (0.746), PU (0.780), PEU (0.681), and IU (0.777) was highly reliable. Overall, the instrument was reliable and valid to be used for studying e-payment security in TAM among college students.

Each survey item regarding perceived security, trust, perceived usefulness, perceived ease of use, and intention to use was framed to reflect a real-world encounter regarding e-payment systems, specifically in terms of daily transactions. This study set out to decide whether they would have an influence on the students' understanding and willingness to use e-payment platforms. This brought to bear patterns of e-payment acceptance through analyzing their responses on how students perceive and interact with digital payment systems, thus contributing to the general understanding of financial technology adoption by the young user segment.

Data Gathering Procedure

The researchers prepared a letter requesting the total population of the college students enrolled at National University—Baliwag. A stratified random sampling was used to ensure representation from all departments and year levels. The data collection for this study was conducted over 4 months to ensure accurate and comprehensive results. The researchers adopted a Likert scale questionnaire for measuring how security influenced students' acceptance and use of the e-payment system. To evaluate the feasibility, reliability, and effectiveness of the research instruments, a pilot test was conducted prior to the actual data collection. This pilot test was carried out using a small sample of students to identify any potential problems or areas of improvement in the questionnaire. The finalized questionnaire was sent to the selected sample population following the necessary modifications.

After the pilot testing phase, the researchers proceeded with the actual data collection process using the same Likert scale survey instrument on the target group of students to assess the perceptions and acceptance of the e-payment system by the students. After the pre-test and pilot test, the results were compared to verify if security concerns had influenced the students' intentions of using the system.

The researchers continued with result analysis after obtaining the actual data from the intended respondents. Descriptive statistics such as mean scores and standard deviations were used to capture the general tendencies in the perceptions and acceptance of the e-payment system by students as reported in this study. The analysis result gave important implications on the effectiveness of the e-payment system and helped in the development of future strategies for enhancing its acceptance among students.

Data Analysis

Once the answers were gathered and categorized according to the research questions, descriptive statistics and mediation analysis were applied as the primary statistical tools for obtaining precise findings. For Research Question 1, descriptive analysis was conducted to describe perceived security and trust in e-payment. Likewise, for Research Question 2, descriptive analysis was employed to describe perceived usefulness, perceived ease of use, and intention to use e-payment. For Research Question 3, mediation analysis was used to examine the indirect relationships between the variables.

Ethical Considerations

The research ethics committee at National University Baliwag gave ethical approval for the study before data collection was conducted. The researchers ensured that participants were fully informed of the aims of the study and that it was not compulsory to participate. Participants were informed of their right to drop out of the study at any time during the data collection process.

The survey questionnaire did not have any personal identifiers to ensure that the respondents' private information was protected and only the researchers had access to the data. The study was done in relation to the Philippine Data Privacy Act (Republic Act No. 10173). The information gathered from the respondents was kept confidential and was not disclosed to third parties without the consent of the respondents. The respondents were treated equally, truthfully and with respect during the conduct of the study and the study was conducted with integrity. To ensure that there is no fraud, abuse or harm during the study, proper research methods were always followed throughout the study.

Results and Discussions

The research conducted a survey of 364 National University - Baliwag students from the School of Business and Accountancy (SBA), School of Engineering, Architecture, and Technology (SEAT), School of Arts and Sciences (SEAS), and the School of Tourism and Hospitality Management (STHM). It sought to investigate the effect of security in the e-payment system on the adoption of e-payment through the Technology Acceptance Model (TAM). Descriptive statistics were employed to examine students' perceptions regarding factors that affect e-payment adoption.

Table 1. *Descriptive Measures of the Influence of E-payment among college students in terms of Perceived Security*

No.	***Perceived Security***		**1**	**2**	**3**	**4**	**Mean**	**SD**	**VI**
1	1.Payment information transmission	f	1	22	251	91	3.18	0.536	R

	is secure.	%	0.3	6.0	68.8	24.9			
2	Payments in each transaction are secure.	f	-	32	244	87	3.15	0.553	R
		%	-	8.8	67.2	24.0			
3	The transaction is protected from hacking.	f	6	59	224	76	3.01	0.661	R
		%	1.6	16.2	61.4	79.2			
4	Digital is safe when using the internet.	f	4	60	234	67	3.00	0.627	R
		%	1.1	16.4	64.1	18.4			
5	Unauthorized parties will not intercept the data.	f	16	65	207	77	2.95	0.750	R
		%	4.4	17.8	56.7	21.1			
6	Digital Payments are safe from hacking.	f	17	73	211	64	2.88	0.741	R
		%	4.7	20.0	57.8	17.5			
7	Data sent cannot be changed by third parties.	f	3	48	235	79	3.07	0.614	R
		%	0.8	13.2	64.4	21.6			
8	Data sent cannot be modified by others.	f	4	34	251	76	3.09	0.581	R
		%	1.1	9.3	68.8	20.8			
Overall							3.04	0.633	

Legend: *Rating* *Verbal Interpretation*

3.25- 4.00	Very Ready	VR
2.50- 3.24	Ready	R
1.75- 2.49	Slightly Ready	SR
1.00 -1.74	Not Ready	NR

The table 1 showed that college students generally perceived e-payment security as safe, with an overall mean of 3.04 (SD = 0.633), which fell within the "Ready (R)" category. This suggested that while students exhibited confidence in e-payment systems, they still maintained a degree of caution. The mean scores for individual security features, such as transmission of payment data, security of transactions, and anti-hacking protection, all fell within the "Ready" category, reinforcing a moderate level of trust. However, the standard deviation of 0.633 indicated a moderate variation in responses, implying that while most students regarded e-payment as secure, some remained uncertain. These findings highlighted the necessity for further enhancements in security measures and awareness initiatives to strengthen trust in e-payment systems, particularly regarding unauthorized access and data integrity.

Table 2. *Descriptive Measures of the Influence of E-payment among college students in terms of Trust*

No.	***Trust***		**1**	**2**	**3**	**4**	**Mean**	**SD**	**VI**
1	All parties involved in transactions are trusted.	f	28	64	46	5	3.10	0.647	R
		%	19.6	44.8	32.2	3.5			
2	The security of the digital transactions is trustworthy.	f	36	66	37	4	3.11	0.600	R
		%	25.2	46.2	25.9	2.8			
3	The service of digital payment is trusted.	f	25	50	55	13	3.12	0.566	R
		%	17.5	35.0	38.5	9.1			
4	The information provided on processes is trusted.	f	43	55	38	7	3.15	0548	SR

		%	30.1	38.5	26.6	4.9		
Overall							3.12	0.590

Legend:	*Rating*	*Verbal Interpretation*
	3.25- 4.00	Very Ready VR
	2.50- 3.24	Ready R
	1.75- 2.49	Slightly Ready SR
	1.00 -1.74	Not Ready NR

The table 2 showed descriptive statistics on the influence of e-payment among college students regarding trust. The total mean score of 3.12 was categorized under "Ready (R)," which implied that students normally had confidence in e-payment systems but that their faith was not very strong. Of the individual trust-specific factors, the most highly rated statement was "The information supplied on processes was trusted," rated at a mean of 3.15 (SD = X.XX) and classified as "Slightly Ready (SR)," indicating cautious confidence in the truthfulness and validity of transactional information. The lowest rated, "All the parties who dealt in transactions were trusted," recorded a mean score of 3.10 (SD = X.XX) and indicated some reservations regarding trusting all parties engaged in e-payments. The standard deviation measures between 0.548 and 0.647 represented a moderate degree of variation in response, such that although most students had similar opinions, there were varying perceptions regarding the trustworthiness of electronic transactions. Generally, the results indicated that college students tended to view e-payment systems as trustworthy but with some level of doubt.

Table 3. *Descriptive Measures of the Influence of E-payment among college students in terms of Perceived Usefulness*

No.	***Perceived Usefulness***		**1**	**2**	**3**	**4**	**Mean**	**SD**	**VI**
1	Using e-payment tools would be advantageous.	f	-	10	189	166	3.43	0.548	VR
		%	-	2.7	51.8	45.5			
2	It saves my time when using an e-payment tool.	f	-	10	173	182	3.47	0.552	VR
		%	-	2.7	47.4	49.9			
3	It reduces the incurred cost when using an e-payment tool.	f	3	51	202	109	3.14	0.672	R
		%	0.8	14.0	55.3	70.1			
4	It helps in reducing the amount of effort required to make payments using electronic tools.	f	1	18	217	129	3.30	0.570	VR
		%	0.3	4.9	59.5	35.3			
5	All the transactions can be performed at anytime and anywhere when using an e-payment tool.	f	3	14	211	137	3.32	0.587	VR
		%	0.8	3.8	57.8	37.5			
6	Digital payment applications increase cost-efficiency.	f	1	23	237	104	3.22	0.559	R
		%	0.3	6.3	64.9	28.5			
Overall							3.31	0.581	

Legend:	*Rating*	*Verbal Interpretation*
	3.25- 4.00	Very Ready VR
	2.50- 3.24	Ready R
	1.75- 2.49	Slightly Ready SR
	1.00 -1.74	Not Ready NR

The table 3 showed that college students generally perceived e-payment was very useful, with an average mean score of 3.31 "Very Ready (VR)." This implied that students generally regarded e-payment tools as very helpful. The statement that obtained the highest rating was "It saved my time when using an e-payment tool" with a mean of 3.47, indicating that students understood e-payment was a time-saving method. Likewise, "Using e-payment tools would have been useful" (3.43), "It helped save time and reduced the effort that has to go into making payments" (3.30), and "All the transactions could be performed at anytime and anywhere when using an e-payment tool." Very Ready (VR)" supported that students enjoyed how easy and convenient online transactions were. But "It reduced the incurred cost when using an e-payment tool" (3.14) and "Digital payment applications increased cost-efficiency" (3.22) scored somewhat lower, placing them in the "Ready (R)" category, implying that students could identify cost advantages but might have still sensed some cost disadvantages. There was moderate response variance, as indicated by the standard deviation values of 0.548 to 0.672. The findings showed that college students valued e-payment, particularly in terms of ease, efficiency, and simplicity.

Table 4. *Descriptive Measures of the Influence of E-payment among college students in terms of Perceived Ease to Use*

No.	***Perceived Ease of Use***		**1**	**2**	**3**	**4**	**Mean**	**SD**	**VI**
1	Ease to Use.	f	0	5	185	175	3.47	0.526	VR
		%	0	1.4	50.7	47.9			
2	Ease to Understand.	f	1	12	203	149	3.37	0.562	VR
		%	0.3	3.3	55.6	40.8			
3	Ease to Interact clearly	f	1	29	200	135	3.28	0.617	VR
		%	0.3	7.9	54.8	37.0			
4	Application can be used quickly.	f	1	13	197	154	3.38	0.570	VR
		%	0.3	3.6	54.0	42.2			
Overall							3.38	0.583	

Legend:

Rating	*Verbal Interpretation*	
3.25- 4.00	Very Ready	VR
2.50- 3.24	Ready	R
1.75- 2.49	Slightly Ready	SR
1.00 -1.74	Not Ready	NR

The table 4 showed that college students generally found e-payment tools simple to use, with most of the aspects scored as "Very Ready" (mean scores 3.28-3.47). In general, ease of use (3.47) received the highest rating, followed by ease of understanding (3.37) and quick application usage (3.38). However, the total score (3.38) fell under "Ready," indicating that, while students regarded e-payment to be user-friendly, there might have been some small interaction issues (3.28). Moderate response variation (SD: 0.526-0.617) suggested general agreement.

Table 5. *Descriptive Measures of the Influence of E-payment among college students in terms of Intention to Use*

No.	***Intention to Use***		**1**	**2**	**3**	**4**	**Mean**	**SD**	**VI**
1	I believe that the e-payment method is better than the traditional payment method.	f	2	45	233	85	3.10	0.608	R
		%	0.5	12.3	63.8	23.3			
2	I believe in the usefulness of e-payment compared with traditional payment.	f	1	22	249	93	3.19	0.540	R
		%	0.3	6.0	68.2	25.5			
3	I think that e-payment usefulness in the main factor to adopt e-payment.	f	-	12	242	111	3.27	0.514	VR
		%	-	3.3	66.3	30.4			
4	I believe that risks associated with e-payment are higher than traditional payment	f	-	19	209	137	3.32	0.569	VR
		%	-	5.2	57.3	37.5			

5	I think that risks associated with e payment are the main factor that affects consumers intention to adopt it.	f	-	14	240	111	3.27	0.522	VR
		%	-	3.8	65.8	30.4			
6	In the future, I think that I adopt/ will Intend to make my payments and money transfers through an electronic instrument.	f	-	13	247	105	3.25	0.510	VR
		%	-	3.6	67.7	28.8			
Overall							3.23	0.816	

Legend:	*Rating*	*Verbal Interpretation*	
	3.25- 4.00	Very Ready	VR
	2.50- 3.24	Ready	R
	1.75- 2.49	Slightly Ready	SR
	1.00 -1.74	Not Ready	NR

The table 5 presented students' perceptions of their intention to use e-payment methods. The overall mean score of 3.23 (SD = 0.672), categorized as "Very Ready (VR)," suggested that most students were willing to adopt e-payment methods. The highest mean score of 3.32 (SD = 0.816) reflected students' perception that e-payment carried more risk than traditional payment methods, yet they remained willing to use it. Conversely, the lowest mean score of 3.19 (SD = 0.510) pertained to statements regarding the effectiveness of e-payment, indicating that while students recognized its benefits, their confidence varied slightly. Despite concerns about risks, students still expressed readiness to use e-payment for future transactions (mean = 3.25, SD = 0.745, Very Ready). The standard deviation values indicated some variation in individual perceptions, but the majority favored e-payment. These findings suggested that, although students acknowledged the risks, they still perceived e-payment as beneficial and are prepared to integrate it into their financial activities.

Table 6. *Mediating Analysis of Perceived Usefulness and Ease of Use on the Relationship Between Trust, Security, and Intention to Use*

Mediation 1. Mediation Analysis of Perceived Usefulness on Intention to Use with Perceived Usefulness as the Mediator

Mediation Estimates

				95% Confidence Interval				
Effect	**Label**	**Estimate**	**SE**	**Lower**	**Upper**	**Z**	**p**	**% Mediation**
Indirect	a × b	0.2201	0.140	0.0211	0.563	1.574	0.115	72.2
Direct	c	0.0847	0.107	-0.1293	0.310	0.791	0.429	27.8
Total	c + a × b	0.3048	0.162	-0.0103	0.655	1.881	0.060	100.0

Mediation 2. Mediation Analysis of Perceived Security on Intention to Use with Perceived Ease of Use as the Mediator

Mediation Estimates

				95% Confidence Interval				
Effect	**Label**	**Estimate**	**SE**	**Lower**	**Upper**	**Z**	**p**	**% Mediation**
Indirect	a × b	0.0141	0.1575	-0.2897	0.362	0.0895	0.929	4.62
Direct	c	0.2907	0.0668	0.1555	0.425	4.3507	< .001	95.38

Mediation 2. Mediation Analysis of Perceived Security on Intention to Use with Perceived Ease of Use as the Mediator

Mediation Estimates

				95% Confidence Interval				
Effect	**Label**	**Estimate**	**SE**	**Lower**	**Upper**	**Z**	**p**	**% Mediation**
Total	c + a × b	0.3048	0.1730	-0.0202	0.655	1.7615	0.078	100.00

Mediation 3. Mediation Analysis of Truston Intention to Use with Perceived Usefulness as the Mediator

Mediation Estimates

				95% Confidence Interval				
Effect	**Label**	**Estimate**	**SE**	**Lower**	**Upper**	**Z**	**p**	**% Mediation**
Indirect	a × b	0.1750	0.105	-0.0141	0.404	1.667	0.096	70.4
Direct	c	0.0736	0.116	-0.1515	0.296	0.636	0.525	29.6
Total	c + a × b	0.2485	0.132	-0.0218	0.488	1.881	0.060	100.0

Mediation 4. Mediation Analysis of Trust on Intention to Use with Perceived Ease of Use as the Mediator

Mediation Estimates

				95% Confidence Interval				
Effect	**Label**	**Estimate**	**SE**	**Lower**	**Upper**	**Z**	**p**	**% Mediation**
Indirect	a × b	0.0901	0.1025	-0.1221	0.287	0.879	0.379	36.3
Direct	c	0.1584	0.0911	-0.0225	0.321	1.739	0.082	63.7
Total	c + a × b	0.2485	0.1337	-0.0342	0.487	1.859	0.063	100.0

The mediation analysis results revealed that none of the hypothesized mediators exerted a statistically significant influence on the association between the independent variables and intention to use. In Med 1, perceived usefulness was expected to mediate the relationship between perceived usefulness and intention to use. Whereas the mediation effect explained 72.2% of the total effect, it was not significant (p = 0.115) and indicated that perceived usefulness as a mediator did not have a strong explanatory power for this relationship. In Med 2, the mediator tested perceived ease of use between

perceived security and intention to use. The direct effect of perceived security was large ($p < 0.001$), whereas the mediation effect was small (4.62%) and non-significant ($p = 0.929$), suggesting that perceived security had a direct impact on intention to use more than it did through ease of use. For Med 3, perceived usefulness mediated between trust and intention to use and accounted for 70.4% of the total effect. But this mediation was not statistically significant ($p = 0.096$) and the direct effect was non-significant, suggesting that the effect of trust on intention to use through perceived usefulness was weak. In the same manner, in Med 4, perceived ease of use mediated between trust and intention to use to the extent of 36.3% of the total effect, but this mediation was again non-significant ($p = 0.379$). All in all, the findings indicated that perceived security and trust were still the most important direct determinants of intention to use, with perceived usefulness mediating to a greater extent than perceived ease of use, but neither mediator was statistically significant.

Summary of Findings

The purpose of this study was to determine how the security of the e-payment system influenced the adoption of e-payment among college students at NU Baliwag using the Technology Acceptance Model (TAM). The researchers were able to determine their opinions through security, trust, usefulness, ease and intention to use of e-payment systems.

The first table, "Descriptive Measures of the Influence of E-Payment among College Students in Terms of Perceived Security," recorded 3.04 as the mean score, meaning "Ready" (R). This showed students knew about security aspects in e-payment systems and considered them to be reliable in terms of conducting transactions. This also showed the respondents were security-aware and cautious when accessing e-payments.

The second table, "Descriptive Measures of the Influence of E-Payment among College Students in Terms of Trust," was 3.12, which is "Ready" (R). The result indicated that the students had confidence in the e-payment systems because of their perceived security and thus trusted using the platforms for transactions. The extent of trust validated that the security features employed by the e-payment providers are sufficient in obtaining users' confidence.

The third table, "Descriptive Measures of the Influence of E-Payment among College Students in Terms of Perceived Usefulness," had a mean rating of 3.31, which fell under the level of "Very Ready" (VR). The finding suggested that the e-payment systems were useful to the respondents as this saved effort and provided more convenient payment method. The convenience offered by e-payment channels made students want to integrate them into everyday transactions, enhancing overall convenience and accessibility.

The fourth table, "Descriptive Measures of the Influence of E-Payment among College Students in Terms of Perceived Ease of Use," was 3.38 in mean score and also marked as "Very Ready" (VR). It indicated that students viewed e-payment systems as easy to use, easy to understand, and easy to get along with. The ease-of-use rating was high, which indicated that students found it easy to use e-payments, involving little effort to comprehend and utilize them.

The fifth table, "Descriptive Measures of the Influence of E-Payment among College Students in Terms of Intention to Use," received a mean rating of 3.23, which is rated as "Ready" (R). This implied that students were more likely to think about e-payments as a potential choice for their financial transactions, affirming the impact of technological advancements on payment attitudes. Although some students might have continued to use traditional payment modes, the positive rating showed that digital transactions were gaining more acceptance.

The final table, "Mediating Analysis of Perceived Usefulness and Ease of Use on the Relationship Between Trust, Security, and Intention to Use," compared four mediation analyses. The first mediation analysis that tested how perceived usefulness related to intention to use returned a non-significant finding ($p = 0.115$) indicating whereas students perceived that e-payments were useful, this alone was not directly causally related to their intent for usage. The second mediation test, where it examined the effect of perceived security on intention to use, also had a non-significant outcome ($p = 0.929$), indicating that although security was an important issue, it might not have been the determinant for a student to embrace e-payments. The third mediation test, between trust and intention to use with perceived usefulness as mediator, had a p-value of 0.096, again confirming that trust did not directly influence intention to use when mediated by perceived usefulness. Lastly, the fourth mediation test, between trust and intention to use with perceived ease of use as mediator, had a p-value of 0.379, and no significant relationship was confirmed.

Generally, the findings implied that although students found e-payment systems secure, trustworthy, useful, and easy to use, these alone did not not significantly influence their intention to use them.

Conclusion

Based on the findings of the study, the following conclusions were drawn Findings revealed that students perceived the security associated with e-payment systems as "Ready". This meant students saw the safeguards established as reliable for transactions conducted through e-payment. Such security might have reassured the student; however, it did not directly lead students toward the e-payment system. Trust enhanced their willingness to use these platforms, but as with security, it did not independently determine adoption. The response in the category of perceived usefulness was interpreted as "Very Ready." This meant that students regarded e-payment systems as advantageous, both timewise and effort-wise, for the transaction. The convenience of digital payment schemes made the students blend it into their day-to-day activities. However, usefulness was not a direct driver toward adoption. In a similar vein, perceived ease of use was interpreted as "Very Ready," and e-payment systems were found to have an intuitive and straightforward user interface embraced by students. It further supported the adoption by reducing the barrier to entry and making digital transactions

easier. In intention to use, the study was interpreted as "Ready" in that students acknowledged the advantages of e-payment systems; some still hesitated to fully transition from traditional payment methods. Although digital transactions were gaining acceptance, additional factors might have been needed to encourage full adoption.

The mediation aimed to determine whether usefulness or ease of use were mediation factors in this relationship of security, trust, and intention to use. The results showed no significant mediation effect. The study presented evidence that security, trust, ease of use, and usefulness were significant in determining the value of e-payment systems; however, no direct influence on students' intention was suggested. Other external factors may play a more crucial role in adoption.

The theory applied the Technology Acceptance Model (TAM) to assess how students perceived e-payment security and its influence on adoption. TAM asserted that perceived usefulness and ease of use were crucial in technology acceptance. Nevertheless, there were extensions to the TAM, notably ones that followed Zhou (2011), which stated that security and trust also contributed to user adoption. The findings revealed that although security and trust caused increased perceptions of usefulness and ease of use, direct effects were not found to help students' intent to adopt e-payments. Addressing security concerns might have improve trust and perceived benefits, but other factors were needed to increase adoption.

The results of the study of e-payment providers and educational institutions showed the necessity of increasing user engagement through security awareness, improved functionality, and seamless integration with student services. Although students rated e-payment systems to be secure, reliable, useful, and ease to use; they had not been recognized as factors affecting direct adoption. The institutions could have promoted such digital payments by offering incentives, shortening steps within processes, and implementing cashless campus initiatives. In addition to that, future researchers should have considered adding other motivators like social influence and digital literacy to fully understand and promote e-payment adoption among students in higher learning institutions.

Recommendation

1.(Students find e-payment systems secure, but security itself does not induce adoption directly). Educational institutions and e-payment providers need to create awareness about digital transactions to communicate the advantages while dispelling misconceptions and addressing security issues so that students will be more confident and ready to use e-payment systems.

2.(Perceived usefulness and perceived ease of use lead to student readiness but are not the determinants of adoption). Universities ought to make seamless integration of e-payment systems in student services like tuition fees, library charges, cafeteria, and transport in order to facilitate their use and showcase their convenience in everyday academic activity.

3.(Students recognize the benefits of e-payment systems but are cautious about abandoning established payment mechanisms completely). Institutions should adopt a step-by-step adoption strategy. Enabling students to make both conventional and electronic payments throughout the transition phase allows them to ease into e-payments in a non-coercive way. Moreover, simplifying transaction processes by minimizing the number of steps involved in effecting a payment can give users a better experience, hence making electronic payments more convenient and increasing usage.

4.(There was no significant mediation effect of security, trust, and intention to use by perceived usefulness and ease of use). Future studies should investigate other drivers, including social influence and digital literacy, to further identify the determinants of e-payment adoption. Investigating the influence of socioeconomic status in determining students' risk and security perceptions in electronic transactions can give insights into more inclusive payment innovations.

5.The Technology Acceptance Model (TAM) was used, yet other frameworks might be more helpful in explaining adoption behavior). In future research, it would be worthwhile to merge the Unified Theory of Acceptance and Use of Technology (UTAUT) with TAM to produce a more elaborate model for studying e-payment adoption. In addition, studies examining the influence of academic performance and age on trust in e-payment security among students can shed more light on long-term acceptance of digital payments at higher education institutions.

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