

# The Factors Influencing Consumer Intentions to Use Internet Banking and Apps: A Case of Banks in Cambodia

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**Abstract**—The study is about the e-banking consumer behavior of five major banks in Cambodia. This work aims to examine the relationships among job relevance, trust, mobility, perceived ease of use, perceived usefulness, attitude toward using, and intention to use of internet banking and apps. Also, the research develops and tests a conceptual model of intention to use internet banking by integrating the Technology Acceptance Model (TAM) and job relevance, trust, and mobility which were supported by Theory of Reasoned Action (TRA) and Theory of Planned Behavior (TPB). The proposed model was tested using Structural Equation Modeling (SEM), which was processed by using SPSS and AMOS with a sample size of 250 e-banking users. The results showed that there is a significant positive relationship among variables and attitudes toward using internet banking, and apps are the most factor influencing consumers' intention to use internet banking and apps with the importance level in SEM 0.82 accounted by 82%. Significantly, all six hypotheses were accepted.

**Keywords**—Bank Apps, consumer intention, internet banking, technology acceptance model.

## I. INTRODUCTION

CAMBODIAN retail banking industry or Cambodian customer banking industry has been considered growing rapidly recently. The rapid development of the internet has changed the way companies relate to their customers, including the banking business [9]. Since the internet is still largely used as a shopping media, banking service providers have to predict the acceptance of internet by customers and understand why the usage of this media still prevails now [12], [14]. Customers prefer the service through internet because they do not have to meet a vendor or seller personally, and endure the behaviors of other customers [21]. The principle change to the banking industry because of the internet was the transformation from traditional banking to electronic banking [22]. Internet banking could be defined as a design on the web page by a bank to give information of the bank's products and services, which in further stages would involve provision of facilities to access accounts, transfer funds and buy finance products, or to use online services, which was called an online banking transaction [11]. Internet banking was also a form of banking service based on information technology which could be utilized to raise customers' satisfaction and loyalty [17].

The development of retail banking services can be seen through the number of internet banking users that are growing

through years. Internet banking helped banks to reduce transaction costs, improve a bank's image in the market, and improve the bank's responses towards the stress of the market [10]. The fact growth of electronic banking may make life easier in some ways, it must also be considered that there is another side – it also changes lives and habits in unpredictable ways.

The TAM has its roots in TRA and TPB, aiming to express the way customers accept the new technologies. TAM was proposed by [20] and underlies almost every recent study in the information systems (IS) field. TAM explained cause and effect relationship between conviction and behavior, purpose or need and the actual usage of an information system.

According to [7], there were two chief concepts in users' acceptance, namely perceived usefulness (PU) and perceived ease of use (PEU). PU was defined as the degree of which a consumer accepts that using this system would upgrade their activity execution and PEU was characterized as the degree, which an individual accepts that employing a specific system would be free of effort. Both PU and PEU jointly influence citizens' intention. TAM is a proved theory in the literature, serving even as a tool to plan the introduction of a new information system, more than just an evaluation system [19]. The model is the foundation of several new models, directly related to e-banking or not. For instance, TAM2 developed by [20] incorporates social influence processes and cognitive instrumental processes related to the initial constructs of TAM. TAM2 adds the following constructs to the model as subjective norm: voluntariness, image, experience, job relevance, output quality and result demonstrability.

This study integrated existing literature about Job Relevance, Trust, Mobility and PU, PEU, Attitude toward Using, and Intention to Use of internet banking and apps as in the conceptual model. Overall, this model proposes to figure out the relationships between variables by mixing the TAM model and the three main variables (Job Relevance, Trust, and Mobility) that have a positive impact on customers' attitude which leads to motivate the intention of customers to use internet banking. Based on the discussion above, the purpose of this research is to find out the four main objectives to achieve the aim.

**Aim:** To find out which variable(s) most affect Internet banking and Apps.

**Objective:** Four objectives are formulated in order to achieve the aim of the study as follows:

- To examine the relationships among Job Relevance,

Trust, PEU with PU.

- To examine the relationships between Mobility and PEU.
- To examine the relationships among PU with Attitude toward using Internet banking and Apps.
- To examine the relationships between Attitude toward using of internet banking apps with Intension to Use of internet banking and apps.

## II. THEORETICAL BASE AND HYPOTHESES

Theoretically, this study was derived from the concept of consumers' intention in choosing internet banking and apps. To understand this subject, the researcher chose five main examples of internet banking and apps in Cambodia such as Advanced Bank of Asia Limited-ABA (ABA Mobile), Foreign Trade Bank of Cambodia-FTB Bank (FTB Mohabot App), Maybank Cambodia (Maybank KH App), Phnom Penh Commercial Bank-PPCB (PPCB Mobile Banking), and Canadia Bank (Canadia Mobile Banking).

Reference [16] stated that consumer intention can be defined as a person's commitment, plan, or decision to carry out an action or achieve a goal. According to [1], internet banking is a process through which banking customers manage their banking transaction without even visiting a bank branch. Internet banking allows customers to conduct bank transactions online, instead of finding a bank and interacting with a teller. In a broad sense, it is the use of electronic means to transfer funds directly from one account to another, rather than by check or cash. TAM was a popular and extensively used model in studies the information technology adoption process, including internet banking. In other to support this study, the researcher proposed three individual convictions, namely job relevance, trust, and mobility, while PU and PEU were the main determinants in adoption behavior (attitude toward using).

According to [20], job relevance can be defined as an individual's perception concerning the degree to which the target system is applicable to his or her job. There are many factors that push consumers to use internet banking and apps in order to fulfill their needs such as working condition, job

needed, and business purpose. Internet banking has been viewed as a delivery channel that is compatible with the profile of the contemporary banking client, who is probably going to be computer-literate and familiar with the internet.

Reference [6] believed that trust is mostly defined as a belief or expectation about the other party, or as a behavioral intention or willingness to depend or rely on another party, coupled with a sense of vulnerability or risk if that trust is violated. Online trust is defined as consumer expectations of how the site would deliver expectations; how believable the site's information depends on how much confidence the site commands.

One of the most important features that have a positive effect on the use of internet banking and apps from traditional payment systems is mobility [6]. Mobility refers to the individual's capacity to make installation free of time and place. People cannot be found more than one place physically with recent conditions. Obviously, people cannot purchase something from the shopping center or take care of the tap when they are grinding away, even at home or when travel to some places. However, people will create all the transactional processes through the internet banking and apps.

PEU is a person's conviction that the computer is easy to understand and to use, while PU is a person's conviction that the use of technology will benefit the user. In TAM, PEU is outlined as perspective toward the usage of a system within the sort of acceptance or refusal when a person uses a technology in his/her tasks.

## III. CONCEPTUAL FRAMEWORK

This study borrowed constructs from the TAM, and integrates factors of Job Relevance, Trust, and Mobility, in order to propose a model. Overall, this model proposes to determine the factors that impact on intention to use of consumers of internet banking and apps by mixing the TAM model and the three main variables (Job Relevance, Trust, and Mobility) that have a positive impact on customers' attitudes which leads to motivate the intention to use of customers of internet banking.

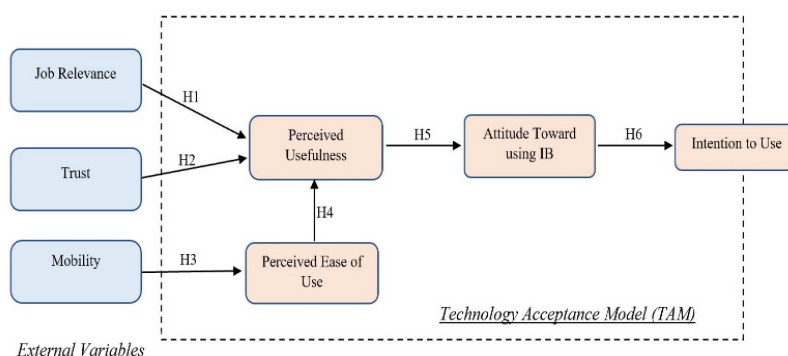


Fig. 1 Concept of the study on the relationships between job relevance, trust, mobility, perceive usefulness, PEU, attitude toward using, and intention to use of internet banking and apps

### A. Hypotheses of the Study

Broadly speaking, in the main theories described in the

literature review, usually the constructs impact intention to use of internet banking and apps in Cambodia. After reviewing the

relevant literature, hypotheses were developed to examine the factors that impact consumer's intention to use internet banking and apps in Cambodia.

- The relationships among Job Relevance, Trust with PU: According to [20], job relevance was significant with PU. Thus, it is hypotheses that:

- *H1: Job relevance will have a positive effect on PU*

Generally, across disciplines there is agreement that trust only exists in an uncertain and risky environment. Reference [13] explained that trust would not be needed if actions could be undertaken with complete certainty and no risk. Reference [13] states that there is increased concern related to the information given online, mostly concerning the interception and misuse of that information in terms of privacy.

- *H2: Trust will have a positive effect on PU*

- The relationships between Mobility and PEU: According to [6], mobility positively influences in adoption of internet banking and mobility has the relationship with PEU. So, the researcher proposed the hypothesis stated as:

- *H3: Mobility will have a positive effect on PEU*

- The Relationships between PEU and PU: According to the original model of [7], PEU also influenced PU. Thus, it is hypotheses that:

- *H4: PEU will have a positive effect on PU.*

- The Relationships between PU with Attitude toward using Internet Banking and Apps: References [5] and [14] found in their studies that PU had a positive and significant influence on attitude toward using internet banking and apps. Reference [7] defined usefulness as the degree of a person's conviction that the use of a technology would improve his/her performance. The measurement of the usefulness based on the frequency of usage and the variety of the applications applied. The study of [7] also found that usefulness had a positive and significant relationship with attitude toward using internet banking and apps. The hypothesis that the researcher would test was:

- *H5: PU will have a positive effect on attitude toward using internet banking and apps.*

- The Relationships between Attitude toward Using of Internet Banking and Intention to Use of Internet Banking and Apps: Attitude refers to the individuals' tendency associated to the degree of feelings toward an object, a thought or a behavior. Customers' attitude or willingness to use the service of internet banking results in the internet banking to be accepted and be intensively used by customers [14]. The positive relationship between attitude toward using and intention to use was found in [8] and [14]. The hypothesis that the researcher would test was:

- *H6: Attitude toward using internet banking and apps will have a positive effect on intention to use of internet banking and apps.*

#### IV. METHODOLOGY

This study was conducted in Phnom Penh, the capital, as well as the largest city in Cambodia. Taking into consideration

the nature of the research framework (see Fig. 1), it was necessary to follow a quantitative method. Quantitative research is a research methodology to qualify data, and applied for statistical analysis and was applied to test pre-determined hypotheses and produce generalizable results [3].

The study conducted a survey of individuals in order to validate the proposed model through the use of a paper survey and an online questionnaire developed by the researcher, with participation requested through Facebook friends, Line, Instagram, Email, and Telegram. The reason for the choice of using an online survey was due to the ease to reach the target participants. The target individuals were members of the private sector, public sector, business owners, and also students who have an ability to run their own business. Questionnaires that were used for the collection of data were adopted from the literature.

##### A. Population and Sample

In this study, the researcher adopted the non-probability sampling technique.

To ensure validity of the study, the sample should consist of at least 196 respondents, as described in [4]. The sampling techniques employed include Convenience Sampling, Snowball Sampling, and Purposive Sampling. From a total of 410 respondents, 130 participated in the online questionnaire and 280 completed a paper survey, of which 250 were found to be suitable for use in the study. The questionnaire contained 37 questions, with responses measured according to a 5-point Likert-type scale that ranged from (1) "Strongly Disagree" to (5) "Strongly Agree".

##### B. Research Variables and their Measurements

Job relevance was measured by two indicators adopted from [7] with 0.69 reliability. Trust was measured by five indicators developed from [2], [18] with 0.67 reliability. Mobility was measured by three indicators adopted from [6] with 0.797 reliability. PU was measured by three indicators developed from [5], [14], [7] with 0.687 reliability. PEU was measured by four indicators developed from [7] with 0.783 reliability. Attitude toward using was measured by six indicators adopted from [14], [8] with 0.813 reliability. Intention to use was measured by four indicators developed from [18] and [20] with 0.783 reliability.

##### C. Analysis Tool

Data from the field were compiled, sorted, and coded to have the required quality, accuracy and completeness. Data were entered into the computer system using the IBM Statistical Package for Social Sciences (IBM SPSS 25) and the Analysis of Moment Structures (AMOS 23) for analysis. In order to test the hypotheses proposed and theories applied, both systems were utilized to analyze the collected data in the research. The data analysis methods in this study contained descriptive statistical analysis, exploratory factor analysis and reliability test, confirmatory factor analysis (CFA), and SEM.

Reference [15] stated that, reliability was an index number which showed the consistency of a measurement tool in measuring similar phenomena. Reliability test aimed to find

out how great the concentration of the measurement tool was, so that when the measurement tool was used again to test a similar object with a similar technique at another time, the result would be the same. The reliability test in this study used the analysis technique with the aid of a computer. A measurement tool was considered reliable if the Cronbach's alpha value was ( $\alpha \geq 0.60$  (60%).

TABLE I  
THE RESULTS OF DESCRIPTIVE STATISTIC (N = 250)

Item Code	Description	Mean	Std. Deviation
<b>Job Relevance</b>			
JR1	In my job, usage of the internet banking is importance.	3.984	0.682
JR2	In my job, usage of the internet banking is relevant.	3.992	0.659
<b>Trust</b>			
T1	This internet banking site is trustworthy.	4.024	0.601
T2	I trust in the benefits of the decisions of this internet banking site.	3.976	0.670
T3	This Internet banking site keeps its promises and commitments.	3.972	0.584
T4	This internet banking site keeps customers' best interests in mind.	3.94	0.689
T5	This internet banking site would do the job right even if not monitored.	3.78	0.725
<b>Mobility</b>			
M1	I believe internet banking is independent of time.	4.168	0.661
M2	I believe internet banking is independent of place.	4.176	0.683
M3	I can use internet banking anytime while travelling.	4.248	0.667
<b>PU</b>			
PU1	Using internet banking would enable me to accomplish task more quickly.	4.212	0.652
PU2	Using internet banking would improve the quality of the banking transactions performed.	4.208	0.674
PU3	Using internet banking would increase my time availability.	4.208	0.726
<b>PEU</b>			
PEU1	I find it easy to get this internet banking site to do what I want it to do.	3.968	0.594
PEU2	It is easy to remember how to use this internet banking site.	4.092	0.643
PEU3	My interaction with this internet banking site is clear and understandable.	4.012	0.611
PEU4	I find this internet banking site easy to use.	4.148	0.600
<b>Attitude Toward Using IB</b>			
ATU1	Using this internet banking is a good idea.	4.212	0.587
ATU2	Using this internet banking is a wise idea.	4.032	0.664
ATU3	Using this internet banking is a pleasant idea.	3.948	0.622
ATU4	Using this internet banking is a positive idea.	4.072	0.661
ATU5	Using this internet banking is an appealing idea.	3.96	0.681
ATU6	My attitude towards internet banking is favorable.	4.14	0.588
<b>Intention of Using IB</b>			
IU1	I intend to continue using this internet banking site in the future.	4.176	0.787
IU2	I expect my use of this internet banking site to continue in the future.	4.328	0.556
IU3	I will frequently use this internet banking site in the future.	4.264	0.610
IU4	I will strongly recommend others to use this internet banking site.	4.316	0.601

The analysis of measurement model employed in this

investigation refers to CFA which was intended to affirm every one of the pointers that shaped each build. The data analysis technique employed in this study also used SEM with AMOS program.

## V.RESULTS

Results of the analyses showed that the majority of respondents use ABA bank (130 respondents) at 52%, followed by FTB bank (27 respondents) at 10.80%, Canadia Bank (25 respondents) at 10%, Maybank (24 respondents) at 9.60%, and other banks such as ACLEDA Plc, ANZ Royal, and Bank of China (26 respondents) which account for 10.40% of all respondents. Sampling was taken from those five banks in regard to customers' enthusiasm in using internet banking and apps. A total of 104 respondents say they used internet banking and apps because of its convenience at a rate of 41.60%. There are 52 respondents (20.80%) used in working condition (for public and private sector firms that use internet banking and apps to pay salaries to their employees), 38 respondents (15.20%) for business purpose, 30 respondents (12%) for discounts from the banks, 12 (4.80%) for booking products or services, and 14 (5.60%) for shopping online.

The comparison between female and male respondents was 136 respondents to 104 respondents. With regard to age, the respondents most willing to use internet banking were consumers between 19-23 years of age, while with regard to occupation, respondents in the private sector accounted for 71 respondents (28%), respondents in the public sector consisted of 58 respondents (23%), respondents who own their own business were 36 respondents (14%), while students accounted for 85 respondents (34%). With regard to income, respondents with an income level of  $\leq \$500$  were the most active in the use of internet banking and apps in Cambodia.

Table I shows of the results of 250 surveys assessed using a 5-point scale, where all questions scored a mean value higher than 3. All the research variables were satisfied with the level of agreement from 250 respondents as mean scores range from 3.780 to 4.328. The results indicate that the respondents are in agreement and are satisfied with using internet banking and apps the banks in Cambodia.

### A. Scales Reliability

Cronbach's alpha is used to assess the internal reliability or the consistency of a set of scales or test items. This means, it tests how closely related a set of items are as a group and which is the consistent measure of a concept. Cronbach's alpha coefficient ranges from 0 to 1, where 0 means that the items are not correlated, and values close to 1 mean that the items under analysis study the same concept. Additionally, the coefficient increases in the same direction as the inter-item correlation. This means that, the indicator can increase if the inter-item correlation increases. In the study under analysis, as shown in Table II, alpha (JR) = 0.69, alpha (T) = 0.672, alpha (M) = 0.797, alpha (PU) = 0.687, alpha (PUE) = 0.738, alpha (ATU) = 0.813, and alpha (IU) = 0.783. It means that 69%, 67.2%, 79.7%, 68.7%, 73.8%, 81.3%, and 78.3% are the variabilities in a composite score by combining the seven

constructs under analysis. So, this is considered as the true score variance or reliable variance. Additionally, the reliability test of the variables was accepted.

TABLE II  
RESULTS OF RELIABILITY TEST (N = 250)

RELIABILITY TEST (N = 288)		
Reliability test		
Item code	Item-to-total correlation	Cronbach's alpha ( $\alpha$ )
	>0.50	$\geq 0.60$
Job Relevance		
JR1	0.527	0.69
JR2	0.527	
Trust		
T4	0.495	0.672
T5	0.475	
T3	0.425	
T1	0.423	
T2 deleted FL<0.60		
Mobility		
M2	0.701	0.797
M1	0.670	
M3	0.556	
PU		
PU3	0.514	0.687
PU2	0.498	
PU1	0.488	
PEU		
PEU2	0.589	0.738
PEU1	0.545	
PEU3	0.523	
PEU4	0.470	
Attitude toward Using Internet banking and apps		
ATU5	0.638	0.813
ATU3	0.632	
ATU6	0.580	
ATU2	0.573	
ATU4	0.544	
ATU1	0.483	
Intention to Use Internet Banking and Apps		
IU3	0.601	0.738
IU2	0.555	
IU4	0.533	
IU1 deleted FL<0.60		

Taking into consideration the first specific goal of this paper, it was possible to observe the relationship between one variable and others. As already mentioned, the data were collected using a convenience sample, snowball sample, and purposive sample that may have influenced the results. Nonetheless, the results show that women are more likely to use internet banking and apps than men. According to the data collected, 60% of users were female. Additionally, in the mentioned study, it was indicated that social condition (occupation, income, and education) also influenced the use of internet banking and apps. That fact may justify the higher banking penetration rate of the sample because, in general, the respondents had at least a bachelor's degree. With the analysis of the framework, it was possible to conclude that PEU had a positive influence on the PU of internet banking and apps.

This was in accordance with what was described in the literature, for example in the TAM [7], TAM2 [20]. This fact may be explained with the benefits of internet banking and apps presented in the literature review section. According to [6], the ease of use is a benefit of e-banking, thus it will be perceived as useful.

TABLE III  
THE RESULTS OF CFA (N = 250)

Item code	Research variable	Standardized loading	t-value	p-value
JR1	→ Job Relevance	0.772	A	
JR2	→ Job Relevance	0.683	6.155	***
T3	→ Trust	0.541	6.147	***
T4	→ Trust	0.736	A	
T5	→ Trust	0.531	6.073	***
M1	→ Mobility	0.802	12.072	***
M2	→ Mobility	0.822	A	
M3	→ Mobility	0.655	10.062	***
PU1	→ PU	0.613	7.949	***
PU2	→ PU	0.631	8.131	***
PU3	→ PU	0.694	A	
PEU1	→ PEU	0.649	8.207	***
PEU2	→ PEU	0.672	A	
PEU3	→ PEU	0.657	8.287	***
PEU4	→ PEU	0.603	7.758	***
ATU1	→ Attitude toward Using	0.587	7.98	***
ATU2	→ Attitude toward Using	0.704	A	
ATU3	→ Attitude toward Using	0.701	9.272	***
ATU5	→ Attitude toward Using	0.656	8.789	***
IU1	→ Intention to Use	0.492	6.534	***
IU2	→ Intention to Use	0.648	8.065	***
IU3	→ Intention to Use	0.744	A	

**Note:** A is Fixed regression weight at 1. Significant level is t-value > |1.96|, \*\*\*p < 0.001 \*\*p < 0.05 \*p < 0.01

TABLE IV  
THE SUMMARY OF HYPOTHESIS TESTING (N = 250)

Path relationship	Standardized coefficient	t-value	p-value	Hypothesis testing
H1: JR → PU	0.1	1.24	0.22	(+) Supported
H2: T → PU	0.1	1.25	0.21	(+) Supported
H3: M → PUE	0.27***	3.38	0	(+) Fully Supported
H4: PUE → PU	0.60***	4.77	0	(+) Fully Supported
H5: PU → ATU	0.66***	5.51	0	(+) Fully Supported
H6: ATU → IU	0.88***	5.99	0	(+) Fully Supported

The researcher formed the objective to investigate the most important factors influencing consumers to use internet banking and apps. This finding obtained from SEM to determine the factors influencing intention to use of internet banking and apps of three famous foreign banking services and two Cambodian banking services in Cambodia, in order to find out the most influencing factor in this study. As shown in Table IV and Fig. 2, with the analysis of the framework, it is possible to conclude that ATU had a positive important influence on the IU of e-banking ( $\beta = 0.88$ ) accounted for 88%. The result was showed that ATT had the most importance level to IU consumers as showed in SEM results.

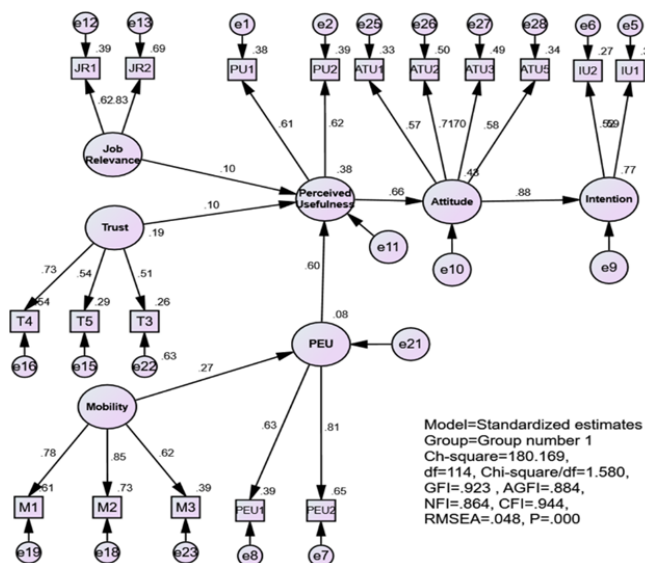


Fig. 2 The Result of Structure Equations Modeling (n = 250)

Finally, according to Table IV and Fig. 2, all projected relationships are supported in this study. The result of the first hypothesis test showed that job relevance had a positive influence on PU ( $\beta = 0.1$ ,  $t$ -value = 1.24,  $p$ -value = 0.22). The second hypothesis showed that trust ( $\beta = 0.1$ ,  $t$ -value = 1.25,  $p$ -value = 0.21) has a significant influence on PU. The third hypothesis showed that mobility had a positive and significant influence on PEU ( $\beta = 0.27$ ,  $t$ -value = 3.38,  $p$ -value = 0.00). The fourth hypothesis showed that PEU had a positive and significant influence with PU ( $\beta = 0.60$ ,  $t$ -value = 4.77,  $p$ -value = 0.00). The fifth hypothesis showed that PU had a positive and significant influence on attitude toward using internet banking and apps ( $\beta = 0.66$ ,  $t$ -value = 5.51,  $p$ -value = 0.00). The last hypothesis showed that attitude toward using had a positive and significant influence on intention to use internet banking and apps ( $\beta = 0.88$ ,  $t$ -value = 5.99,  $p$ -value = 0.00).

As previously mentioned, there are several differences in internet banking rates, a fact that has raised questions regarding the factors that influence internet banking adoption by customers. Using different methods and approaches, several researchers studied the different factors influencing customers' technology adoption [8] where theories like TRA, TAM and TPB appeared.

## VI. CONCLUSION

When more financial institutions offer internet banking services, studies on the important factors which influence the intention to use of consumers and the relationships between variables become very crucial. Analysis of the results of the variables which influenced the intention to use internet banking and apps gave the following finding: PU was influenced by the factors of job relevance, trust, and PEU of the service and PEU were influenced by mobility; attitude toward using internet banking and apps was influenced by PU; intention to use internet banking and apps was influenced by

attitude toward using internet banking and apps.

## A. Limitations and Future Research

With the expansive growth of e-commerce applications including web banking, the positive and noteworthy consequences of this investigation demonstrated that further examinations ought to be centered on adding factors or potentially markers to the ones shown in this examination, so as to advance the model. This study was an effort to validate the findings of other studies in a different context by examining the intention to use of internet banking and apps in Phnom Penh city, Cambodia. Consumers from different cultures may show different interests in judging a technology.

The outcome of this study has practical implications and recommendations for banks. In addition, banks should structure their sites as successful conveyance channels and offer data past financial administrations. It is basic to give a well-planned and easy to understand site to pull in potential adopters' consideration. The customer should not be required to expand a lot of effort or time, or undergo too great a change in behavior, to adopt internet banking services.

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