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Celebrity Endorsement and Consumer Behavioral Intention Toward Electronic Payment Services: Evidence from Vietnam

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Abstract

As electronic payment methods continue to diversify, Mobile Money (MM) has emerged as a particularly advantageous option because it allows users to conduct cashless transactions without relying on traditional banking services. In Vietnam, MM has been in a pilot phase since 2021 and has experienced considerable growth. This research investigates the factors that shape individuals' intentions to adopt MM in developing economies, using Vietnam as the primary case study. An extended Technology Acceptance Model (TAM), supplemented with user-centric constructs, was employed to examine these influences. Survey data gathered from 528 MM users indicate that the TAM framework provides a strong explanation for users' Behavioral Intention (BI) to engage with MM services. The analysis further shows that personal variables—namely Brand Awareness, Personal Innovativeness, Social Influence, and Celebrity Endorsement—play significant roles in predicting BI. Additionally, Celebrity Endorsement strengthens the positive association between Brand Awareness and BI. The study concludes with several recommendations aimed at policymakers and MM providers based on these empirical findings.

Keywords: E-payment market, TAM model, Mobile money, Celebrity endorsement, Behavioral intention

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Introduction

In recent years, Mobile Money (MM) has become a key component of many nations' efforts to reduce reliance on cash and enhance financial inclusion. By 2020, close to 300 MM platforms were operating worldwide, with 1.4 billion registered accounts across 96 countries and a total transaction volume approaching 700 billion USD [1]. This widespread global uptake is largely due to MM's ability to bypass the constraints of traditional banking, which typically requires account ownership and physical access to banking services. Instead, MM utilizes extensive mobile network infrastructure to allow users to conduct payments quickly, conveniently, and at lower cost from virtually any location. These advantages support household consumption, facilitate smooth money transfers, and encourage the use of complementary financial products such as microcredit and savings accounts [2]. Consequently, MM holds particular promise for populations in developing and low-income regions. As illustrated in **Figure 1**, Sub-Saharan Africa recorded the greatest number of MM accounts in 2023, followed by South Asia and then East Asia and the Pacific.

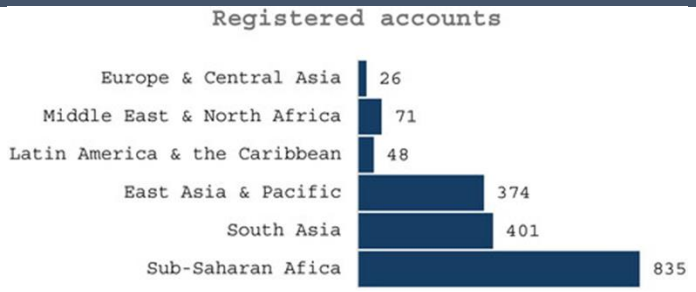

Figure 1. MM accounts (in million) registered internationally [3]

Vietnam has emerged as a prominent example of successful mobile money (MM) deployment in the developing world. Like many countries, Vietnam views MM as a powerful Fintech tool to promote financial inclusion, particularly among unbanked populations and residents in rural and remote regions. Since 2021, the State Bank of Vietnam has run a nationwide pilot program in partnership with the country's three leading telecom operators—Viettel, Vinaphone, and Mobifone—which has produced impressive results. As reported by the State Bank of Vietnam [4], by September 2024 more than 9.87 million users had registered MM accounts, with over 70% living in rural and remote areas. Transaction volume exceeded 102 million, with a total value surpassing 1.462 trillion VND. The pilot has also led to the creation of 11,939 MM agent outlets across the country, of which 7,529 are located in mountainous, border, and island regions, underscoring Vietnam's strong commitment to building a cashless society.

Recent surveys further indicate that Vietnamese consumers are rapidly forming regular MM usage habits. Nguyen *et al.* [5] found that more than two-thirds of respondents make mobile payments at least once a week, while nearly one-third use MM services daily. Such trends suggest substantial potential for full-scale MM adoption in the near future and position Vietnam as a valuable case study for understanding e-payment and MM continuance behavior in emerging economies—an area that remains underexplored in the literature [5].

Against this backdrop, the primary goal of the present study is to deliver actionable insights for policymakers and MM providers in developing nations by examining how individual perceptions of technological benefits and social influences shape users' behavioral intention (BI) to adopt MM services, using Vietnam as the empirical setting. To this end, the research proposes an integrated model that combines Perceived Usefulness (PU) from the Technology Acceptance Model (TAM) and Social Influence (SI) from the Unified Theory of Acceptance and Use of Technology (UTAUT), while incorporating three additional individual-level constructs—Personal Innovativeness (PI), Brand Awareness (BA), and Celebrity Endorsement (CEn)—to better capture network and contextual dynamics.

The study is driven by two key motivations. First, although prior research recommends enriching TAM–UTAUT frameworks with personal and contextual variables to explain digital payment behavior [6-9], most existing studies in the region have concentrated on system quality and security concerns rather than individual differences [10, 11]. Notably, perceived risk appears less critical in Southeast Asia: Ha *et al.* [12] detected no significant influence of functional, financial, social, or information risks on continued mobile payment use in Vietnam, while Widyanto *et al.* (2022) reported similar non-significant risk effects in Indonesia. Pham and Ho [11] also observed that trust exerted no meaningful impact on NFC-based mobile payment adoption intentions in Taiwan.

Second, despite widespread recognition that celebrity endorsement (CEn) is a potent marketing tool for creating positive attitudes and boosting purchase intentions, its application to financial services remains severely under-researched [13, 14]. Although empirical evidence for CEn is relatively robust for physical consumer goods [13, 15], its effectiveness in the financial sector—especially in emerging markets such as Vietnam—remains ambiguous and contested [16, 17].

By addressing these gaps, this research seeks to make meaningful theoretical and practical contributions. Theoretically, it extends the explanatory power of TAM and UTAUT to the emerging domain of mobile money services and sheds light on psychological and social drivers of MM acceptance, an area of growing academic interest. Practically, the findings will offer guidance for crafting targeted policies and communication campaigns to accelerate MM penetration and support Vietnam's transition to a cashless economy. A distinctive feature of the study is its examination of whether and to what extent celebrity endorsement moderates the link between brand awareness and behavioral intention in the Vietnamese context.

The remainder of the paper is organized as follows: Section 2 reviews the theoretical background of mobile money, relevant adoption frameworks, hypothesis development, and the proposed conceptual model. Section 3 describes the research methodology and data collection procedures. Section 4 reports the empirical results and discusses their implications. Finally, Section 5 concludes the study and outlines theoretical contributions, managerial recommendations, limitations, and avenues for future research.

Hypothesis Development and Literature Review

Mobile money (MM)

In this study, Mobile Money (MM) refers to basic financial activities—such as making personal or small-value payments and depositing or withdrawing funds—that individuals can perform remotely using their mobile phones [18]. This interpretation is aligned with the definition offered by GSMA (2010), which characterizes MM as a system that enables access to financial services through a mobile device. A key distinction should be emphasized: unlike mobile banking, which is operated by traditional financial institutions, MM is provided by mobile network operators. As a result, MM can reach users who do not hold bank accounts, making it substantially more inclusive [18]. To promote clarity and uniformity in how MM is understood, GSMA [3] outlined three essential conditions for classifying a service as MM: (i) transactions must be executed via mobile phones; (ii) services must be available to people without formal bank accounts; and (iii) an extensive agent network—capable of conducting transactions offline—must be in place to ensure service accessibility.

Literature review and hypothesis development

The technology acceptance model (TAM)

When researchers seek to understand why individuals are willing to adopt new technological solutions such as Mobile Money (MM), the Technology Acceptance Model (TAM) is often regarded as the foundational and most frequently applied framework [19]. Developed by Davis [20], TAM adapts key ideas from both the Theory of Reasoned Action (TRA) and the Theory of Planned Behavior (TPB). The model proposes that two core cognitions—Perceived Usefulness (PU) and Perceived Ease of Use (PEOU)—account for much of the variation in a person's Behavioral Intention (BI) to use a new system **(Figure 2)**. In Davis's [20] formulation, PU represents the extent to which an individual expects that using a system will improve task performance, whereas PEOU captures the individual's belief that interacting with the system will require minimal effort.

TAM suggests that PEOU influences intention indirectly by shaping a user's overall attitude toward the technology. PU, however, operates through two pathways: it not only affects attitude but also directly contributes to BI by altering how users evaluate the potential advantages of adoption. Since the present research is specifically concerned with how perceived benefits influence the intention to adopt MM, the model incorporated in this study focuses solely on the direct effect of PU on BI.

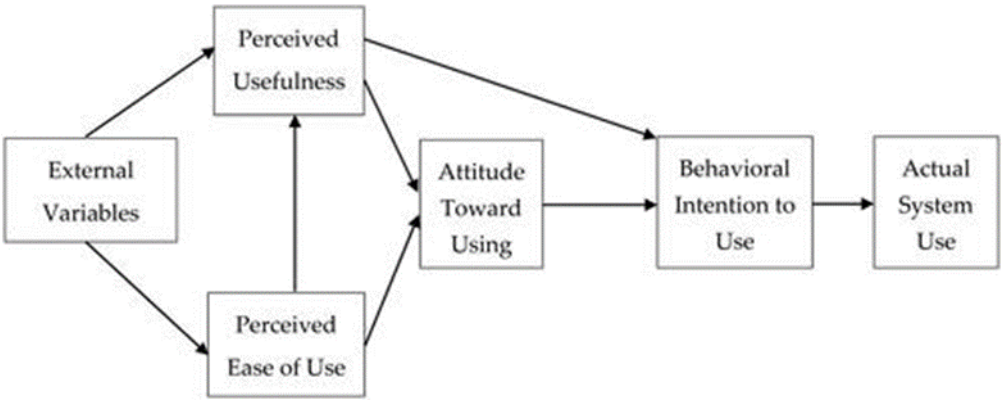

Figure 2. The technology acceptance model.

Although TAM has been expanded and modified in numerous ways since its introduction, the original version still stands out as the most influential and empirically supported framework for interpreting how people come to accept new technologies. This is evident in a wide range of studies, including those in Fintech and MM adoption [21]. For instance, Shankar & Datta [22], applying PLS-SEM in the Indian context, demonstrated that PU and PEOU strongly shape users' willingness to adopt mobile payment tools. Similar patterns have been documented in several other national settings—for example, in China [23], Indonesia [24], and Saudi Arabia [25]. Because such findings consistently highlight TAM's explanatory strength, this model is considered essential for the current investigation, which aims to identify what drives BI to adopt MM services in Vietnam.

The Unified Theory of acceptance and use of technology (UTAUT)

Even though TAM has been widely applied, one recurring criticism is its limited attention to user heterogeneity and contextual constraints [26]. In response to these concerns, Venkatesh *et al.* [27] synthesized elements from a broad set of acceptance theories—including TAM—to construct the Unified Theory of Acceptance and Use of Technology (UTAUT). This framework offers a more comprehensive lens by pinpointing several core determinants of BI toward novel technologies: performance expectancy, effort expectancy, SI, and facilitating conditions. Since its development, UTAUT has been validated in multiple settings, with research suggesting that these constructs explain nearly two-thirds of individuals' intention to engage with new systems. A more elaborate discussion of these variables, as well as the moderating roles of gender, age, experience, and voluntariness **(Figure 3)**, can be found in Venkatesh and Zhang [28].

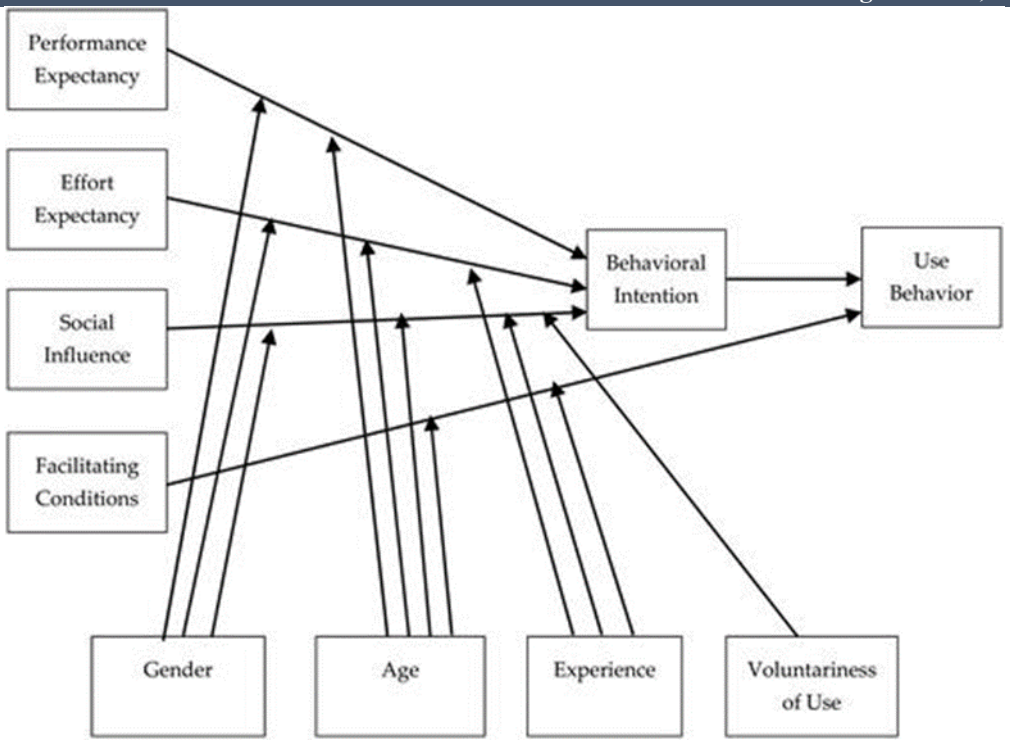

Figure 3. The unified theory of acceptance and use of technology [28]

Among the constructs proposed in UTAUT, this study gives particular attention to SI. In the formulation of Venkatesh *et al.* [29], SI captures the extent to which individuals believe that people who matter to them—those with whom they maintain close and influential relationships—expect them to adopt or refrain from using a given technology. Scholars generally trace the theoretical origins of SI to subjective norms and status-related motivations, suggesting that individuals may embrace new technologies either to align with the preferences of their significant referents or to enhance their standing within a valued social group [30]. Building on insights provided by Lu *et al.* [31] and Nath *et al.* [32], this study interprets "social circle" primarily within the domain of one's professional environment. In this view, organizational expectations, as well as encouragement from managers, supervisors, and other authoritative actors, play a normative role in shaping adoption decisions. This influence becomes particularly salient when a technology is unfamiliar; uncertainty in such situations often leads individuals to rely on guidance, reassurance, and practical experience shared by figures they deem trustworthy [29].

The UTAUT framework has increasingly served as a theoretical anchor for research exploring acceptance of FinTech applications and mobile payment systems [33]. Its growing prominence largely reflects its strong predictive capabilities. Slade *et al.* [26], for instance, demonstrated that UTAUT explained mobile payment adoption intentions nearly 47% better than the explanatory power originally reported by Venkatesh *et al.* [27]. Recent work on MM adoption further reinforces these insights. Sobti [34] found that each of the UTAUT components significantly contributed to the uptake of MM services in India. Comparable results have also been observed in sector-specific contexts—such as banking and hospitality—where UTAUT variables consistently emerge as key drivers of MM adoption decisions [8, 35].

Hypothesis development

Perceived usefulness (PU)

PU refers to the extent to which an individual believes that employing a particular technology will improve their performance or outcomes [20]. In the context of MM services, these systems are expected to streamline payment activities and offer greater convenience than conventional financial channels, which in turn can foster favourable evaluations toward their adoption [36]. Evidence from Patil *et al.* [37] further indicates that when users recognize clear benefits or are provided incentives to utilize MM, their likelihood of adopting and engaging with such services increases. Drawing on these insights, the study advances the following hypothesis:

Social influence (SI)

SI captures the extent to which an individual's decisions are shaped by influential others or by information circulating within their environment [38]. Its relevance in predicting customers' BI has been consistently demonstrated. For example, Musa *et al.* [39] reported that social pressure and recommendations significantly shaped Qataris' intentions to adopt mobile payment technologies. In the Indian context, Patil *et al.* [37] also observed a direct and meaningful effect of SI on mobile payment

adoption decisions. Likewise, Koenig-Lewis *et al.* [40] noted that mobile payment users tend to weigh the opinions of important figures in their social network—particularly supervisors—when evaluating whether to embrace a new system. Building on this evidence, the study proposes the following hypothesis:

H2: SI positively influences customers' BI to adopt MM services.

Personal Innovativeness (PI)

Within the information technology domain, Agarwal and Prasad [41] characterize PI as an individual's readiness to experiment with unfamiliar digital tools, whereas Upadhyay and Jahanyan [42] view it as a person's inclination to engage with a newly introduced system or service. Although expressed differently, both definitions converge on the idea that highly innovative individuals are typically early adopters—people who actively seek novel solutions and are comfortable navigating uncertainty or limited information [31].

Younger users, especially those belonging to Generation Z, exemplify this trait. Their strong affinity for emerging technologies and eagerness to follow the latest trends reflect a desire to maintain social relevance and differentiate themselves from peers. Despite the extensive use of PI in technology acceptance literature, Patil *et al.* [37] note that discussions regarding its influence on innovation adoption remain ongoing across disciplines. Many scholars, including Lu *et al.* [31] and Fagan *et al.* [43], have therefore emphasized the importance of clarifying the direct link between PI and BI. Building on these insights, the study proposes the following hypothesis:

H3: PI positively affects customers' BI to adopt MM services.

Brand Awareness (BA)

Keller [44] conceptualizes BA as the extent to which consumers can recognize or retrieve a brand from memory. Functionally, BA reflects how customers perceive a brand and is often used to anticipate their future purchasing choices [45]. In their study, Wang and Yang [45] found that BA strengthens the link between a brand's credibility and consumers' purchase intentions. This effect is often attributed to the connection between BA and customers' expectations of a brand's performance, which can, in turn, enhance the influence of PU on BI.

In the MM context, these dynamics may be particularly relevant in Vietnam. Because nearly all MM users rely on one of the country's three major telecom operators—Viettel, Vinaphone, and Mobifone—the recognition and familiarity associated with these well-established brands may shape individuals' willingness to adopt MM services. Consequently, this study investigates whether such brand familiarity contributes to forming customers' BI toward MM adoption. Based on this reasoning, the following hypothesis is proposed:

H4: BA positively influences customers' BI to adopt MM services.

Celebrity Endorsement (CEn)

CEn in this study follows the conceptualizations of Bergkvist & Zhou [16] and Wang & Liu [46], who, after synthesizing prior scholarship, describe it as a formal arrangement in which a publicly recognized individual collaborates with a brand or organization to promote its offerings. In essence, CEn represents a strategic communication practice whereby widely visible figures—whose prominence stems from exceptional talent, inherited status, or sustained media exposure—lend their reputation to endorse particular products, services, or ideas [17].

A major stream of CEn research concerns the attributes that define an effective celebrity endorser. This interest originates from the wide variety of conceptualizations of endorser credibility found in frameworks such as the Commitment–Trust Theory and the Product Match-Up Hypothesis [47]. Although the literature does not converge on a single dominant framework, Erdogan [48] notes that most conceptualizations are grounded in two seminal models: Hovland *et al.*'s (1953) Source Credibility Model and McGuire's (1985) Attractiveness Model. Collectively, these models propose three core dimensions of endorser credibility—Expertise, Trustworthiness, and Physical Attractiveness.

Trustworthiness concerns the degree to which the target audience (TA) views the endorser as sincere, honest, dependable, and morally sound. Expertise represents the TA's perception that the endorser possesses relevant knowledge, experience, or competence related to the endorsed product or brand. Importantly, Yang [49] argues that audiences may regard celebrity endorsers as credible information sources even without formal credentials. Physical Attractiveness involves perceptions of the endorser's likability, relatability, and overall appeal [50].

When considering the nature of influencers in these two domains, it is important to differentiate CEn from SI. As discussed earlier, SI is tied to normative pressures or expectations from individuals within one's immediate social environment—those whose opinions matter personally or professionally. In contrast, CEn involves high-profile individuals from entertainment, athletics, politics, business, or even military sectors who leverage their public status to maintain brand recall through commercial appearances [51]. SI reflects subjective norms, whereas CEn more closely aligns with descriptive norms, capturing the visibility and perceived commonality of adopting a particular behavior, such as using MM services [52].

The effectiveness of CEn is well documented in both academic and practitioner communities. Singh [47], for example, demonstrated how endorsements by athletes and film celebrities strengthened Indian banks' ability to foster customer trust, commitment, and loyalty. Similarly, Al Mamun *et al.* [53] reported that endorsers exhibiting the three credibility attributes significantly improved customer attitudes toward advertisements for green cosmetics, which subsequently enhanced purchase intentions. From a business performance perspective, Elberse & Verleun [54] showed that although celebrity alignment did not significantly reduce competitors' sales, it generated an average weekly revenue boost of $200,000 and produced abnormal stock returns of 0.23% following endorsement announcements.

To explain these impacts, Bergkvist & Zhou [16] highlight evaluative conditioning as a key mechanism: consumers' evaluations of a stimulus can shift simply due to repeated association with a celebrity endorser. For instance, Kirmani & Wright [55] found that celebrity participation in an advertising campaign may signal high marketing investment, thereby enhancing perceived brand quality. Drawing on signaling theory and the elaboration likelihood model, Bennett *et al.* [56] similarly argue that CEn serves as a persuasive cue that reduces consumers' reluctance to process advertisements and mitigates perceived inconsistencies between price and expected quality. Consistent with this logic, research has repeatedly shown that when endorsers are seen as trustworthy, knowledgeable, and attractive, consumers develop more favorable brand attitudes, which ultimately contribute to supportive behavioral outcomes such as purchase intention [50].

Given this evidence, it is reasonable to expect that CEn not only exerts a direct influence on BI but may also enhance the effect of BA on customers' decisions to adopt emerging technologies such as MM services. Accordingly, the following hypotheses are proposed:

H5: CEn positively influences customers' BI to use MM services.

H6: CEn moderates the relationship between BA and customers' BI to use MM services.

Based on the hypotheses developed above, the proposed research framework is illustrated in **Figure 4**.

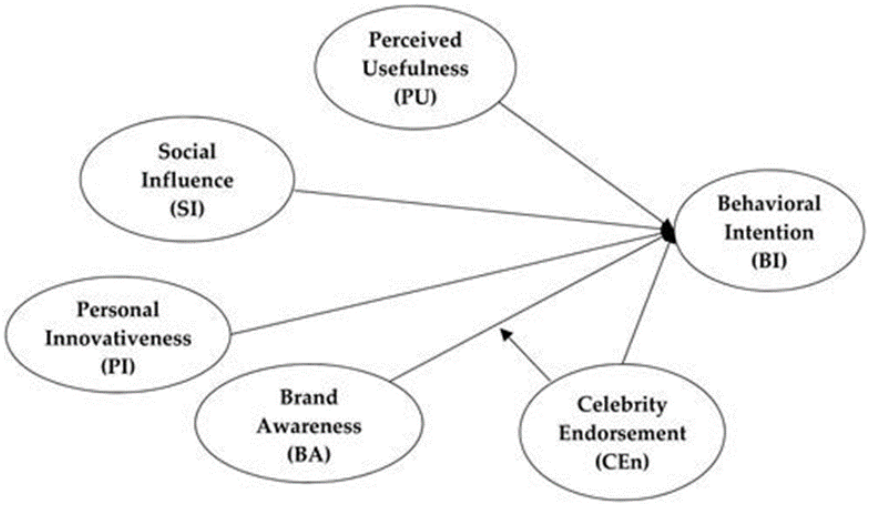

Figure 4. Research proposal model

Research Methodology

To empirically evaluate the hypotheses outlined earlier, the study adopted a mixed-method research design that incorporated both qualitative and quantitative approaches. The investigation commenced with a qualitative stage, during which a focus group consisting of 25 MM users was convened to review and refine the measurement items. Their feedback helped ensure that the scale descriptors and observed variables were accurate, relevant, and easily understood. Based on the insights generated from this phase, a final survey instrument was developed. The questionnaire included 36 observed items used to operationalize the constructs within the proposed research framework **(Table 1)**.

Table 1. Factors and Scale in the research model.

Construct	Number of Items	Original Scale/Source
Perceived Usefulness (PU)	7	Davis [20]
Behavioral Intention (BI)	3	Venkatesh *et al.* [27]
Social Influence (SI)	4	Nath *et al.* [32]
Personal Innovativeness (PI)	4	Lu *et al.* [31]; Kwon [57]
Brand Awareness (BA)	6	Kilei and Omwenga [58]
Celebrity Endorsement (CEn)	3	Erdogan [48]

(Source: Author's own work)

Data collection was carried out through an online survey distributed over a two-month period, from July to September 2024. Prior to completing the questionnaire, all respondents were required to provide written informed consent. The sample comprised Vietnamese individuals who were either current users of mobile money services or had expressed an interest in adopting them, recruited through convenience sampling. In total, 528 valid responses representing a wide range of demographic backgrounds were obtained **(Table 2)**. Participants assessed the survey items based on their own experiences, knowledge, and perceptions. After data cleaning, the final dataset was analyzed using SMARTPLS to estimate the measurement indicators and evaluate the proposed hypotheses.

Table 2. Sample demographics (n = 528)

Demographic Variable	Category	Frequency (N)	Percentage (%)
Gender			
	Female	401	75.9%
	Male	127	24.1%
	Total	**528**	**100%**
Age			
	Under 18 years	7	1.3%
	18–25 years	500	94.7%
	25–55 years	21	4.0%
	Total	**528**	**100%**
Education Level			
	Intermediate	9	1.7%
	College	202	38.3%
	University	297	56.3%
	Postgraduate	20	3.8%
	Total	**528**	**100%**
Monthly Income (in VND)			
	Less than 3 million	368	69.7%
	3–5 million	96	18.2%
	5–10 million	32	6.1%
	More than 10 million	32	6.1%
	Total	**528**	**100%**

(Source: Author's own work)

The respondent group in this study is largely composed of young adults between 18 and 25 years old, most of whom are students, with females representing 75.9% of the sample. This demographic profile reflects the use of convenience sampling and the inclusion criteria established for participant selection. Because the study focuses on individuals who hold at least a basic understanding of mobile financial services, the characteristics of this sample are considered suitable for examining the proposed hypotheses.

Results

Scale reliability

The study evaluated scale reliability using a two-phase approach. In the first phase, the analysis focused on the measurement model at the first-order level to confirm the consistency of individual indicators. In the second phase, the relative importance of each first-order construct was examined by assessing the significance of its outer weights in relation to the second-order construct. Following the recommendations of Hair *et al.* [59], the evaluation considered key criteria for reflective constructs, including measures of internal consistency, as well as convergent and discriminant validity. The outcomes of this process are reported in **Table 3**.

Table 3. std deviation (SD), factor loading (λ) , Mean (M) observed variables

Construct & Reliability Indices	Item	Mean (M)	SD	Standardized Loading (λ)
Perceived Usefulness (PU) CA = 0.918, CR = 0.936, AVE = 0.709	PU1	3.781	0.947	0.786
	PU2	3.912	0.789	0.763
	PU3	3.614	0.954	0.854
	PU4	3.863	0.788	0.809
	PU5	3.941	0.802	0.788
	PU6	4.033	0.762	0.797
	PU7	4.069	0.770	0.806
	PU8	3.935	0.814	0.786
Behavioral Intention (BI) CA = 0.940, CR = 0.950, AVE = 0.705	BI1	3.755	0.818	0.807
	BI2	3.487	0.805	0.833
	BI3	3.758	0.792	0.805
	BI4	3.703	0.812	0.860

	BI5	3.765	0.819	0.843
	BI6	3.670	0.851	0.819
	BI7	3.703	0.796	0.871
	BI8	3.588	0.821	0.874
Social Influence (SI) CA = 0.895, CR = 0.927, AVE = 0.760	SI1	3.386	0.919	0.873
	SI2	3.497	0.908	0.884
	SI3	3.533	0.915	0.825
	SI4	3.657	0.909	0.873
Personal Innovativeness (PI) CA = 0.829, CR = 0.898, AVE = 0.764	PI1	3.791	0.802	0.907
	PI2	3.425	0.837	0.829
	PI3	3.281	8.881	0.853
	PI4	3.886	0.798	0.841
Brand Awareness (BA) CA = 0.848, CR = 0.898, AVE = 0.688	BA1	3.948	0.769	0.840
	BA2	3.876	0.835	0.887
	BA3	3.712	0.947	0.777
	BA4	3.925	0.799	0.811
Celebrity Endorsement (CEn) CA = 0.893, CR = 0.934, AVE = 0.824	CE1	0	1	0.905
	CE2	0	1	0.881
	CE3	0	1	0.938

(Source: Author's own work)

Convergent validity was assessed through the examination of outer loadings and Average Variance Extracted (AVE) values, summarized in **Table 3**. The analysis revealed that the majority of item loadings exceeded 0.763, well above the recommended 0.7 threshold. Additionally, AVE scores for all constructs ranged from 0.626 to 0.796, surpassing the 0.5 benchmark, indicating that the constructs' indicators adequately converge [60].

To evaluate internal consistency, both Cronbach's Alpha (CA) and Composite Reliability (CR) were employed. The results in **Table 3** show that all constructs have CA and CR values within the acceptable range of 0.7 to 0.95, suggesting that the measurement scales are reliable and consistently capture the intended constructs [59].

Discriminant validity was examined using the Heterotrait-Monotrait ratio (HTMT) approach [61]. High HTMT values indicate a lack of discriminant validity. For constructs that are conceptually similar, a threshold of 0.90 is recommended; values exceeding this suggest insufficient discriminant validity. Moreover, confidence intervals for all HTMT estimates should not include the value 1. The HTMT results for this study, which confirm discriminant validity, are reported in **Table 4**.

Table 4. The discriminant validity results

Construct	BA	BI	CEn	PI	PU	SI
Brand Awareness (BA)	**0.830**					
Behavioral Intention (BI)	0.531	**0.839**				
Celebrity Endorsement (CEn)	0.531	0.496	**0.808**			
Personal Innovativeness (PI)	0.581	0.525	0.541	**0.863**		
Perceived Usefulness (PU)	0.480	0.502	0.444	0.485	**0.801**	
Social Influence (SI)	0.433	0.499	0.524	0.416	0.515	**0.872**

(Source: Author's own work)

All constructs exhibit values below the threshold of 0.872, indicating that discriminant validity has been successfully established between them. Consequently, the measurement model satisfies the necessary criteria and is deemed suitable for proceeding to subsequent analyses.

SEM analysis results and hypothesis testing

Hypotheses were examined using a bootstrapping procedure with 5,000 resamples to estimate the path coefficients (β) along with their associated t-statistics and p-values. The outcomes, including the calculated path coefficients, t-values, p-values, and the corresponding hypothesis test results, are presented in **Table 5**.

Table 5. The research hypothesis testing

Hypothesis	Path Relationship	Standardized Coefficient (β)	Standard Error (SD)	t-value	p-value	Supported
H1	Perceived Usefulness (PU) → Behavioral Intention (BI)	0.146	0.066	2.215	0.027	Yes
H2	Social Influence (SI) → BI	0.187	0.061	3.081	0.002	Yes
H3	Personal Innovativeness (PI) → BI	0.186	0.064	2.905	0.004	Yes
H4	Brand Awareness (BA) → BI	0.199	0.068	2.912	0.004	Yes
H5	Celebrity Endorsement (CEn) → BI	0.218	0.077	2.848	0.004	Yes
H6	Celebrity Endorsement × Brand Awareness (CEn × BA) → BI (Moderating effect)	0.105	0.038	2.767	0.006	Yes

(Source: Author's own work)

According to Hair *et al.* [59], a path coefficient is deemed statistically significant if the empirical t-value exceeds the critical thresholds of 1.96 ($p < 0.05$) and 2.58 ($p < 0.01$). The structural model results fully support all six hypotheses. With respect to the direct effects on Behavioral Intention (BI), five predictors demonstrate positive and significant influences: Celebrity Endorsement (CEn) shows the strongest effect ($\beta = 0.218$, $p = 0.004$), followed by Brand Awareness (BA) ($\beta = 0.199$, $p = 0.004$), Social Influence (SI) ($\beta = 0.187$, $p = 0.002$), Personal Innovativeness (PI) ($\beta = 0.186$, $p = 0.004$), and Perceived Usefulness (PU) ($\beta = 0.146$, $p = 0.027$).

Hypothesis H1 is supported at the 5% significance level ($t = 2.215$), whereas H2 through H5 are supported at the 1% significance level (t-values ranging from 2.848 to 3.081, all exceeding the critical value of 2.58).

Regarding the moderating effect, the interaction term CEn × BA → BI is positive and statistically significant ($\beta = 0.105$, $p = 0.006$), confirming that Celebrity Endorsement significantly strengthens the influence of Brand Awareness on Behavioral Intention. Thus, all proposed hypotheses (H1–H6) are empirically supported.

Discussion

The findings from the data analysis confirm all proposed hypotheses, demonstrating that Perceived Usefulness (PU), Social Influence (SI), Personal Innovativeness (PI), Brand Awareness (BA), and Celebrity Endorsement (CEn) exert positive direct effects on users' Behavioral Intention (BI) to adopt Mobile Money (MM) services. Furthermore, the impact of BA on BI is amplified under the moderating influence of CEn.

First, the results underscore the significant role of PU in shaping Vietnamese users' BI toward MM, reaffirming the explanatory power of the Technology Acceptance Model (TAM) in accounting for adoption behavior of innovative FinTech solutions, especially in developing countries [62]. This aligns with prior research within comparable e-payment contexts. For instance, To & Trinh [63] reported that PU is a key determinant of Vietnamese users' intentions to adopt mobile wallets, while Kim *et al.* [10] similarly observed a significant effect of PU on BI toward mobile payments in Korea. These findings are particularly relevant in Vietnam, a country with a high reliance on cash transactions, where encouraging adoption among unbanked populations in remote regions necessitates substantial changes in established payment habits.

The demonstrated effect of PU suggests a need for national and regional initiatives to enhance digital literacy, emphasizing the functional benefits of MM services. Nguyen *et al.* [64] highlight that many Vietnamese, particularly in rural areas, possess limited technological proficiency, ranging from fundamental to intermediate levels. To increase MM adoption, both service providers and governmental authorities should prioritize awareness campaigns that convey the advantages of MM, offer trial opportunities, improve customer support, and incorporate hands-on MM learning into educational curricula to facilitate practical familiarity.

Second, the study confirms that SI, derived from the UTAUT framework, positively influences users' BI. This indicates that social endorsement, particularly from peers and superiors, significantly shapes the decision to adopt MM in Vietnam. These results are consistent with findings from Koenig-Lewis *et al.* [40], who observed that French youth are sensitive to peer influence, and with Park *et al.* (2019), highlighting similar patterns in American users. Despite geographic and cultural differences, our findings reinforce the role of SI in Vietnam, where collectivist social norms, high power distance, and moderate uncertainty avoidance prevail [65].

In line with the Bass diffusion model (1969) and studies examining Hofstede's cultural dimensions [66-69], Vietnamese users exhibit strong tendencies toward imitation and word-of-mouth behaviors. This reflects the nation's Confucian heritage, which emphasizes collective goals and interpersonal harmony, encouraging individuals to align their behaviors with group norms and authoritative guidance [65, 70]. High power distance further reinforces hierarchical influence, as subordinates often regard superiors as credible sources of guidance and model their behaviors accordingly [66, 68, 69]. Consequently, Vietnamese MM users are more likely to adopt MM when usage and benefits are demonstrated or endorsed by trusted peers and authoritative figures, suggesting that providers and regulators should leverage community-based promotion and peer-to-peer learning to encourage adoption.

Third, PI emerged as a significant predictor of BI, indicating that users' willingness to explore new technologies directly affects MM adoption. This aligns with Fagan *et al.* [43], emphasizing traits such as curiosity and adventurousness in early adopters. However, this finding contrasts with Lu *et al.* [31], who reported limited predictive power of innovativeness, potentially due to their sample of older MBA students who approached technology evaluation more critically. In contrast, the present study predominantly involves Generation Z respondents in Vietnam, a cohort characterized as tech-savvy digital natives [71], supporting the relevance of PI in predicting adoption intention.

Fourth, BA was found to significantly influence BI, consistent with Chen & He [72] and Wang & Li [73]. A strong brand presence in memory, reinforced through positive associations, facilitates recognition and adoption of MM across routine financial interactions. Practically, this can be achieved through multi-channel campaigns tailored to address users' everyday challenges, such as cumbersome cash transactions or minor bill payments. Viettel's viral YouTube campaign, featuring

celebrities demonstrating MM usage in rural areas, serves as a pertinent example of leveraging brand visibility to drive adoption.

Fifth, CEn emerged as the strongest predictor of BI (β = 0.218), consistent with previous research [14, 50, 74]. In Vietnam's collectivist society, endorsements by admired public figures effectively influence users, particularly those with limited product knowledge. Psychological mechanisms, including consumer inference [75] and the meaning transfer process [76, 77], explain this impact: consumers are more likely to emulate behaviors of credible, trustworthy, and attractive celebrities, associating symbolic meanings with the endorsed product. For Vietnamese users, CEn resonates strongly with in-group belonging and identity expression, making endorsements a potent driver of MM adoption [77, 78].

The dominant effect of CEn over PI and SI suggests that adoption decisions are more influenced by alignment with celebrity endorsers than by personal innovativeness or social norms. Theoretical perspectives, including Diffusion of Innovation and the Elaboration Likelihood Model, indicate that less-informed adopters rely on peripheral cues such as celebrity endorsements to make decisions, especially in contexts of moderate digital literacy [75, 79-81]. This underscores the importance of emphasizing both functional and social benefits of MM through CEn-centered marketing strategies to accelerate adoption.

However, reliance on CEn carries potential risks. Endorsers can overshadow the campaign's core message, dilute brand identity, or introduce ethical and reputational risks if misbehavior occurs [48, 49]. For instance, Zhou & Whitla [82] note that negative celebrity actions can adversely affect firm value, a concern particularly relevant in Vietnam where MM services are often government-affiliated.

Finally, the support for H6 highlights CEn's moderating role between BA and BI. When liked and admired celebrities endorse MM services, followers' intention to adopt increases. Theoretically, this aligns with findings by Lafferty *et al.* [83] and Russell & Rasolofoarison [84], suggesting that consumer loyalty and emotional attachment to endorsed brands are strengthened through association with reputable celebrities. Porajow *et al.* [85] further show that celebrity endorsements enhance curiosity and proactive information-seeking behaviors among consumers, reinforcing adoption intention.

Conclusion

Understanding user acceptance of Mobile Money (MM) services carries both theoretical and practical importance, particularly as new financial services and mobile payments continue to expand. In Vietnam, where MM is still in its pilot and early adoption stages yet demonstrates promising outcomes, this study sought to examine the formation of Behavioral Intention (BI) to use MM through an integrated lens combining TAM and UTAUT, alongside user-centered variables, including Perceived Usefulness (PU), Social Influence (SI), Personal Innovativeness (PI), and Celebrity Endorsement (CEn). Additionally, the moderating role of CEn in the relationship between Brand Awareness (BA) and BI was considered. The results confirm that all these factors significantly influence BI, with CEn also moderating the BA–BI relationship, providing new insights into mobile payment adoption behavior and offering actionable guidance for both policymakers and MM service providers. These findings contribute not only to academic literature but also to strategies aimed at promoting MM adoption nationwide.

From a theoretical perspective, the results reinforce the predictive capacity of TAM and UTAUT constructs, particularly PU and SI, in explaining the adoption of FinTech and MM services in developing countries. Importantly, the study highlights the dual role of CEn as both a direct influencer of adoption intention and a moderator between brand equity and BI. Furthermore, the findings add to the limited literature on the role of PI in shaping innovation adoption behaviors [31], suggesting its relevance in the Vietnamese context.

Practically, these results emphasize the importance of communicating the benefits of MM services and leveraging multiple sources of influence on potential users' behavior. MM service providers are advised to collaborate with socially respected celebrities or key opinion leaders to deliver promotional messages effectively. The prominent role of CEn also underscores the need for careful selection, management, and performance monitoring of endorsers, who should be credible, financially knowledgeable, and relatable to both the brand and the public, to avoid ethical concerns or unintended negative effects. Providers should maintain visibility in rural areas, demonstrating how MM services integrate seamlessly into daily routines, reducing transactional burdens with minimal cost or effort. Offering trial opportunities with exclusive benefits for early adopters and those generating user content can further encourage adoption.

Government support is crucial to the success of these strategies. Authorities should develop legislation that facilitates and scales MM adoption, with particular focus on underbanked and rural populations. Measures could include simplified registration processes, subsidized fees, and tax incentives for MM use. Regulatory frameworks should also ensure reliable data protection and secure operations to establish trust among users. In parallel, educational programs should raise awareness of MM's personal and societal benefits, enhance digital literacy, and provide training on financial management and personal data sharing. Given the influence of CEn, government oversight of celebrity-centered campaigns is also necessary to prevent misleading practices and enforce accountability.

Despite these contributions, several limitations should be acknowledged to guide future research. First, the measurement of CEn may be limited due to the number of items used, suggesting a need for expanded and validated scales in subsequent studies. Second, the demographic composition of the sample, predominated by either male or female respondents, may introduce bias, although similar patterns have been observed in prior MM research [10, 22, 86-88]. Third, future investigations could examine which specific traits of CEn-ers resonate most with Vietnamese consumers and MM services, incorporating additional antecedents from TAM/UTAUT and BA/CEn to enhance predictive accuracy. Research could also explore alternative mediation and moderation pathways, including the moderating role of personal traits, as proposed in UTAUT. Cross-cultural or cross-country comparisons would further test the robustness and generalizability of the framework. Lastly, employing longitudinal or experimental methodologies could improve external validity and address limitations inherent in cross-sectional survey designs.

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