Users' Adoption Intention to Use Wealth Tech Services: Toward an insight into users in Ha Noi and Ho Chi Minh City during Covid-19 and Beyond

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***Abstract* - This paper seeks to identify and evaluate the factors influencing the adoption of Wealth Tech services in Hanoi and Ho Chi Minh to provide insights into the intention of Vietnamese users to use Wealth Tech services post-Covid-19. This study proposes an integrated model of Technology Acceptance Model 2 (TAM 2) and Unified Theory of Acceptance and Utilize of Technology 2 (UTAUT2), which incorporates determinants such as Intention to Use (IU), Performance Expectancy (PE), Effort Expectancy (EE), Social Influence (SI), Government Support (GS), Financial Health (FH), Financial Literacy (FL), Perceived Risks (PR), and Brand Image (BI). The results of an online survey of 157 Vietnamese users reveal substantial connections between Performance Expectation (PE), Effort Expectation (EE), Social Influence (SI), Government Support (GS), Financial Health (FH), and Brand Image (BI) and the intention of users to use Wealth Tech services. However, the impacts of Perceived Risks (PE) and Financial Literacy (FL) are not statistically significant. A regression analysis was performed on two sample groups, current and future users. This study contributes to the literature by incorporating models to explore Vietnamese users' intention to use Wealth Tech services. In addition, the findings offer Vietnamese Wealthech service providers fresh insights for thriving in this uncertain world. Further research is suggested to examine the adoption model of Wealth Tech services.**

***Index Terms*—adoption, intention to use, Wealth Tech services, COVID-19.**

I. Introduction

Wealth Tech or digital wealth management is a subset of fintech that mixes money with technology.

In terms of digitalization, the wealth management sector has already come a long way, and innovation is accelerating every day. According to CB Insights [1], the wealth technology sector saw a fundraising boom in Q1'21, raising $5.6 billion, which is an increase from the $5.2 billion raised at the end of 2020. The wealth management platform market is anticipated to grow from $3.71 billion in 2021 to $9.19 billion in 2028 at a CAGR of 13.8% [2]. With the country's rapid digitalization of wealth management, Vietnam's wealth management business is seen as a rising star in Southeast Asia. Money Lover, Finhay, Techcom Securities, Tikop, and other well-known brands are only a few. The International Trade Association estimates that the Personal Finance sector in Vietnam, which includes Wealth Tech services and Remittance/International Money Transfer, made up 9% of the country's Fintech market in 2017 and will increase by 31% by 2025 (Vietnam Fintech, 2020). The Vietnamese spent a total of 1.958 million USD on digital investments in 2021, according to Statista [3].

In addition to the potential and growth of the wealth technology sector, numerous studies and papers exist on theoretical and practical elements in the global setting. But things have changed more quickly than ever, thanks to technology and the Covid-19 pandemic. To improve and revisit the current findings, more research is therefore required. Furthermore, there is still much to learn and understand about this topic in the context of Vietnam. This research aims to determine and evaluate the factors influencing Vietnam's acceptance of Wealth Tech services.

II. Theoretical Background

A. Literature Review

1) Wealth Tech

Wealth Tech is one of the FinTech service trends that have emerged due to the digitalization of the global financial system. Wealth Tech services include Robo-advisory, Robo-retirement, Digital brokerage, Micro investment, Algorithmic trading, and B2B Software [4], [5], [6]. Wealth Tech is broadly defined by Chishti and Puschmann [7] as the impact of technology on the global investment and wealth management business, which encompasses private banking and asset management. Wealth Tech is defined in this article as a digital financial solution that assists clients with investing and asset management.

2) Overview of Conceptual Framework

As a new subsector of FinTech services, there is so far no research examining the factors influencing the intention to adopt Wealth Tech services. Regarding FinTech research, TAM/TAM2 and UTAUT/UTAUT2 are widely applied.

Davis [8] initially proposed TAM to identify the variables influencing computer acceptance and user behavior across end-user computing technologies and user groups. [9]. Perceived Usefulness (PU) and Perceived Ease of Use (PE) are two factors that influence the user's attitude toward the system, which affect the user's intention to use. TAM2, an abbreviated version of

TAM, was developed by Venkatesh and David [10] in 2000, adding subjective norm, voluntariness, image, work relevance, output quality, and outcome demonstration. The TAM2 model then postulated that PU and PE directly affect IE [10, p. 195]. Several researchers have adapted the model to anticipate user intentions in several FinTech categories, such as internet banking [11], mobile wallet [12], and Bitcoin [13]. To examine Chinese user adoption, Hu et al. [14] integrated TAM model determinants with trust constructs: user innovativeness (UI), government support (GS), brand image (BI), and perceived risks (PR). The study showed that users' trust in FinTech services substantially impacts their adoption attitudes [15]. Nathan et al. [16] also included trust, BI, GS, and UI with PU and PE in the TAM model to analyze financial literacy, fintech adoption, and the impact of the COVID-19 outbreak on Vietnamese consumers' financial health. The data indicated that user innovativeness and attitude have an apparent effect on FinTech adoption; however financial literacy has a negative effect [15].

UTAUT is an enhanced model derived from TAM and TAM2. In addition, UTAUT 2 [17] added three more components to the UTAUT framework: hedonic motivation, price value, and habit. Xie et al. [18] utilized perceived value (PV) and perceived risks (PR) as two financial consumption attributes. Another research [19] exploring the factors driving mobile financial service (MFS) adoption intention during the Covid-19 outbreak in Bangladesh integrated the primary components of UTAUT and PV, PR, and perceived trust. This study found that PR had no influence on user intention to utilize MFS platforms during the epidemic [19].

In this study, we will incorporate the core elements of the TAM and UTAUT 2 models with FH, FL, GS, BI, UI, and PR as the primary determinants of financial trust and consumption.

B. Relevant theoretical models

In parallel with the proliferation of technology [20], there are a plethora of preliminary studies on individual behavior and rational action models of emerging technology adoption. In 1975, Fishbein and Ajzen's Theory of Reasoned Action (TRA) [21] asserted that a person's intentions determine their actual conduct, while attitudes and subjective standards impact their behavioral tendencies. Ajzen [22] further developed the Theory of Planned Behaviour (TPB) during the next two decades. Specifically, Icek Ajzen included perceived behavioral control factors comprising internal and external elements [22]. While acknowledging that the intention to perform governs behavior, Davis's TAM [9] discovered that the intention was generated from attitude, which comprised PU and PE as determinants. UTAUT was originally proposed by Venkatesh et al. in 2003 [16] as the most integrated model with four factors of user behavior [16]: PE, EE, SI, and FC. In 2012, Venkatesh et al. added three variables to the UTAUT2 model: hedonic motivation, price value, and habit [18]. UTAUT2 has proven to be an effective tool for researching the adoption of technology in the banking industry [14], blockchain [24], cryptocurrencies [25], mobile payment [26], and digital payment [27], [28].

While TAM and UTAUT2 are the most prominent models for technological adoption, some elements must be modified in the FinTech services industry and Wealth Tech services. For example, Hu et al.'s [14] research on the adoption intention of financial technology services by bank customers provided a TAM model that adapted the distinctiveness of Fintech services using empirical evidence in China. Specifically, the model was developed using the TAM model and a literature assessment on the uptake of Fintech services. The findings suggested that BI, GS, and user innovation (UI) significantly influence the uptake of Fintech services [14]. Similarly, BI and GS positively relate to SME adoption intentions of Fintech services in Peru [23]. However, UI has no substantial effect.

Overall, the research model based on previously tested research appears to have great adaptability. However, as previously analyzed, there has been little research on WealthTech services adoption in a Southeast Asian country like Vietnam. Hence, this study will evaluate a combination of components in the TAM and UTAUT2 models, customized for Wealth Tech services in Vietnam.

C. Hypotheses development and research model

The research goal is to indicate the determinants of Wealth Tech services adoption in Vietnam in the post-Covid-19 pandemic and beyond. Factors evaluated in this study were: Performance Expectancy, Effort Expectancy, Intention to Use, Social Influence, Facilitating Conditions, Perceived Risks, Financial Literacy, Government Support, User Innovativeness, Financial Health, and Brand Image. These factors are adopted from the UTAUT2 by Venkatesh et al. [17], the recently updated theoretical model to investigate the acceptance and the use of technology under customer context, integrating with financial services consumption element (perceived risks), and TAM model by Venkatesh and David [10]. Financial Literacy, Government Support, Financial Health, and User Innovativeness were added for further customer Wealth Tech services adoption analysis.

1) Intention to Use

Intention to use (ITU) is defined as a factor reflecting the extent of customer desire to adopt or use new technology [21], an immediate precursor of a particular behavior [28].

In this study, ITU refers to customers' willingness to adopt Wealth Tech services. Turner et al. [29] performing a meta-analysis of TAM revealed that 'Intention to Use' is a reliable determinant of technology usage in both subjective and objective evaluation. Thus, this research proposes the following hypothesis:

H1: Intention to use has a positive impact on customers' adoption of Wealth Tech services.

2) Performance Expectancy

Performance Expectancy (PE) indicates to which extent a person believes that adopting or utilizing new technology will advance his/her life quality [16], [17]. PE is considered to be equivalent to perceived usefulness in TAM [9], extrinsic motivation on the Motivational Model [30], job-fit in the model of PC utilization [31], a comparative advantage in Innovation Diffusion Theory [32], expected results in Social Cognitive Theory [33]. Prior empirical studies have indicated PE as the strongest indicator predicting customers' intention to use new technology, with the result providing positive outcomes in Fintech services, banking services, or m-payment [34]-[36].

However, there is little evidence of this relationship under the context of Wealth Tech services adoption solely. Since Wealth Tech services provide effective and efficient financial investment and asset management solutions (cash, gold, ...) through digital tools (applications. website) for customers, the intention to use new technology can be impacted by such expectations. Hence:

H2: Performance Expectancy is positively correlated to customers' intention to use towards the adoption of Wealth Tech services.

3) Effort Expectancy

Effort Expectancy (EE) is interpreted as the level of simplicity perceived by users when they use a given system [16], built on three root constructs of perceived ease of use (TAM/TAM2), complexity (MPCU), and ease of use (IDT) [16, p. 450]. David el at. [9, p.320] supported the idea that users are more inclined to adopt an application that is deemed to be easy to use than another. Therefore, EE has been considered as a determinant of customer's intention to use technology, associated with customers' expectation of ease of use of Wealth Tech services in this research. To adopt Wealth Tech services, customers need either a mobile phone or computer to gain access to the application or the website, the platform compatibility level, and user interface friendliness degree thus could affect customers' ease of use, and eventually affect their intention to use Wealth Tech services. Therefore:

H3: Effort Expectancy is positively correlated to users' intention to use towards the adoption of Wealth Tech services.

4) Social Influence

Venkatesh et al. [16] has defined social influence (SI) as the extent to which an individual evaluates the recommendation on using new system from his/her important people. It is considered as a direct factor affecting behavioral intention and equivalent to subjective norms (TRA, TAM2, TPB/DTPB, C-TAM-TPB), social factors (MPCU), and image (IDT) [16, p. 451]. Researchers have identified that this factor can influence customer behaviours generally and their technology adoption particularly. In this study, SI refers to users' thoughts of essential others (family, colleagues, and friends) who encourage them to use Wealth Tech services. Studies have implied that social influence is positively correlated users' technology adoption in mobile applications [37]; mobile payment [38]; and Fintech adoption [34]. Hence:

H4: Social Influence is positively correlated to users' intention to use towards the adoption of Wealth Tech services.

5) Facilitating Conditions

Facilitating conditions (FC) refers to the extent people believe that organisational and technical infrastructures are available to assist the utilization of technology [16]. This term is developed from determinants of perceived behavioral control (TPB/ DTPB, C-TAM-TPB), facilitating conditions (MPCU), and compatibility (IDT) [16, p. 453]. Support infrastructure, as a key concept involved in this construct, has a deep relation to the effort expectancy construct that indicates the ease of the tool [10]. In this study context, FC is perceived as people's attitude toward available resources and supports i.e smartphone, Wealth Tech platforms, and Wealth Tech firms' advisors) during their Wealth Tech services adoption process. Prior research on the new-technology adoption have supported the hypothesis of a positive correlation between FC and users' ITU in mobile banking adoption, mobile commerce, and fintech platform [35], [39].Hence:

H5: Facilitating conditions is positively related to users' intention to use towards the adoption of Wealth Tech services.

6) Government Support

Government support (GS) is vital for industrial development as its regulations and policies would aid the industry to grow and benefit stakeholders and companies in that industry [14], [40]. Hu et al. [14] also considered as a component of the trust construct, which implies that an application supported by the government tends to appear more reliable and easier to be adopted by users. The research in online banking adoption of Marakarkandy et al. [40] supported the argument that as the government has credibility among the citizens, therefore, a sign of support from the government to a particular industry: Wealth Tech - would increase the services' reliability and validity when the regulations support the services in providing investment advisory services or wealth management. However, the empirical findings of government support impact on adoption intention of Wealth Tech services are still limited. Hence, the study proposes:

H6: Government Support positively affects users' intention to use towards the adoption of Wealth Tech services.

7) Financial Health

Financial Health (FH) has been defined as the state of individual financial affairs including monetary situation (behaviors, attitudes) and financial satisfaction [41], [42]. Research findings from prior studies have shown a positive association between FH and Fintech adoption behavior [44]. Hence:

H7: Financial Health positively affects users' intention to use Wealth Tech services.

8) Financial Literacy

Financial Literacy (FL) presents an individual's understanding of fundamental financial knowledge. In their research, Morgan and Trinh [43], Junger and Mietzner [45] have shown a positive relationship between FL and adoption behavior. Therefore:

H8: Financial literacy has a positive relation with customers' intention to use Wealth Tech services.

9) User Innovativeness

User Innovativeness (UI) is one of a technology pioneer's important traits, it represents to what extent an individual is willing to explore novel innovation, so it is considered as a primary determinant of technology adoption's behavior [14], [34], [46], [47]. Hence:

H9: User Innovativeness positively affects users' intention to use towards the adoption of Wealth Tech services.

10) Perceived Risks

Perceived Risk (PR) refers to users' concern towards actions that potentially bringing adverse effects [48] or a factor influencing on customers in the initial stage of decision-making [49]. To explore novel innovation, users may encounter multiple risks (data privacy, IoT, documentation) which can hinder their adoption intention towards new technology [50]. Studies have

found a negative association between PR and users' ITU novel innovation [51], [52]. Hence:

H10: Perceived risks negatively influences on customers' intention to use toward the adoption of Wealth Tech services.

11) Brand Image

Brand Image (BI) refers to a determinant affecting users' acumen or represents users' impression and perceptions towards the brand [53], [54]. Research findings have indicated a positive association between BI and users' ITU novel technology by assessing BI with customers' fondness, and company reputation [14], [15], [34], [55], [56]. Therefore:

H11: Brand image has a positive correlation with customers' intention to use toward the adoption of Wealth Tech services.

III. Researching Method

A. Data Processing Method

The survey's subjects were Vietnamese 16 to 50-year-olds, mostly from Hanoi and Ho Chi Minh City. After preliminary screening, 58 invalid surveys with inconsistency, bias, and random filling were eliminated, leaving 157 genuine responses for a 73.02 percent effective response rate.

The structural equation model was used to process and analyze the data in this paper. Multiple statistical methods were used to investigate the relationship between multiple variables based on the covariance matrix, encompassing correlation analysis, regression analysis, reliability testing, factor analysis (principal component), average variance extracted, and composite reliability. In the fields of behavioral science and technology adoption, these methods are commonly used to explain the causal relationship between independent and dependent variables. SPSS 26.0 and Microsoft Excel are the primary statistical tools used in this paper to examine the reliability and relationship between variables.

TABLE I
Sample Characteristics

Demographic Variable and Category		Frequency	Percentage
Gender	Female	109	69.4
	Male	43	27.4
	Prefer not to disclose	5	3.2
Age	16-22	108	68.9
	23-29	36	22.9
	30-50	13	8.2
Education	High School	16	10.2
	Bachelor	124	79
	Masters	16	10.2
	PhD	0	0
Location	Hanoi	86	54.8
	Ho Chi Minh City	53	33.8
	Others	18	11.4
Service usage frequency	Daily/Every day	4	2.5
	4-6 times/ week	8	5.1
	2-3 time/ week	23	14.6
	Once/ week	14	8.9
	2-3 times/ month	12	7.6
	Once/ month	4	2.5
	Less often than once/month	20	12.7
	Never	72	45.9

IV. Results

A. Reliability and validity

Reliability implies the level of consistency of the questionnaire measurements. The study used composite reliability (CR) and Cronbach's alpha to evaluate the measurements' internal consistency. The result showed that all measurements have an adequate internal consistency with CR and Cronbach's alpha value ranging from .77 to .91 and .711 to .941 respectively, which are higher than critical value [57] [58].

Validity refers to the accuracy of the measure that includes convergent and discriminant validity. Factor analysis was conducted with the extraction method as principal component

analysis to test discriminant validity, which refers to the measures of the distinction between each variable. Ten independent variables emerged with Eigenvalues greater than 1, presenting 71.96% of variances. Two factors namely facilitating condition and user innovativeness were removed, along with nine items of perceived risk, intention to use, perceived ease of use, social influence, financial literacy, financial health and brand image factors, due to the low loading. After the removals, there were no cross loading between each considered variable , indicating the acceptable discriminant validity for the constructs [59]. All of the variables have the AVE values of above .50, except financial health (.471). Nonetheless, CR of financial health is .775, proving that the construct has convergent validity as suggested by Fornell and Larcker [57]. Perceived ease of use has the highest mean (3.605) whereas social influence gets the lowest mean value (3.15).

B. Hypotheses testing

Based on the illustration in Table III, seven hypotheses are statistically supported with p-value (< .05) except H8, H10 with p-value (> .05) indicating two results of null hypotheses, and H5, H9 (having inconsistencies in the scale items of factors). It can be seen that Performance Expectancy (PE) has the most positive influence for users' ITU with the highest value β = .706.

Standardised coefficient (β) of all variables > 0 indicating positive correlations between IVs and DV in the research model.

TABLE III
HYPOTHESES TESTING

	Hypotheses	Standardised Coefficient β	Sig	Decision
H1	Intention to use -> Actual Adoption	0.499	.000	Supported
H2	Performance Expectancy -> Intention to Use	0.706	.000	Supported
H3	Effort Expectancy -> Intention to Use	0.535	.000	Supported
H4	Social Influence -> Intention to Use	0.503	.000	Supported
H5	Facilitating Conditions -> Intention to Use	0.45	.000	Removed due to inconsistency in scale items
H6	Government Support -> Intention to Use	0.270	.001	Supported
H7	Financial Health -> Intention to Use	0.242	.002	Supported
H8	Financial Literacy -> Intention to Use	0.146	.067	Unsupported
H9	User Innovativeness -> Intention to Use	0.477	.000	Removed due to inconsistency in scale items
H10	Perceived Risks -> Intention to Use	-0.116	.146	Unsupported
H11	Brand Image -> Intention to Use	0.381	.000	Supported

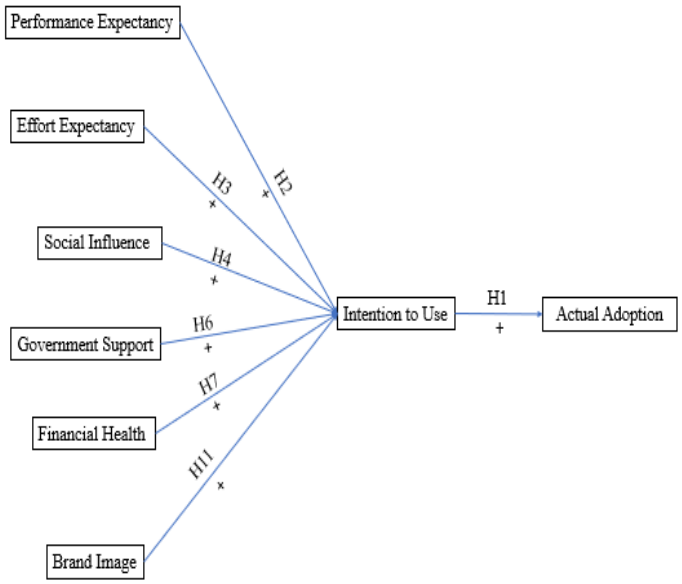

Fig. 9 Results of hypothesis tests.

V. DISCUSSION CONCLUSION AND FUTURE RESEARCH DIRECTIONS

There are major theoretical contributions. In the first place, it improves the theoretical model framework of the factors that affect customers' intentions to utilize Wealth Tech services in Vietnam. By introducing four more factors—financial health, user innovation, government support, and financial literacy—this study expands the UTAUT. These four elements have already been mentioned as having an impact on the use of Wealth Tech services. And the data's findings supported this claim, showing that two of them have a favorable influence on customers' usage intentions. The empirical data of Vietnamese consumers is the second. Such studies are scarce in the Vietnamese environment, which is made worse by the fact that there hasn't been enough study done specifically concentrating on Wealth Tech services globally. As Vietnam's wealth technology industry develops, this study's focus on Vietnamese users may be able to offer some useful insights to Vietnamese businesses. Additionally, it offers more thorough and in-depth details regarding the Vietnamese market, laying the foundation for additional study on the subject.

From the statistical findings, practical implications encompass three main points: (1) enhancing managers' awareness of influential factors to Vietnamese users' Wealth Tech services adoption intention, (2) providing proper support and attention to the motivating factors of users' wealth tech services adoption, (3) provisioning of differences in influential factors between used and have-not-used users for further strategy development. Firstly, this study indicates that PE and EE variables play vital roles in persuading customers to adopt wealth tech services in both current user and future user groups. Vietnamese people are aware of the benefit of wealth tech management solutions and expect easy-to-use platforms to facilitate their asset management process. Wealth Tech companies can increase individuals' perceived value of wealth tech management platforms by making their platforms more friendly-user. Secondly, the SI factor has an influential impact on individuals' adoption intentions, being a foundation for wealth tech companies' marketing strategies. Lastly, the paper points out that people who have not used wealth tech services tend to be affected by fundamental factors such as performance expectancy, social influence, effort expectancy, and financial health while current users are not only influenced by fundamental factors but also affected by brand image and government support. Wealth tech firms can segment these two types of users and use appropriate tactics to increase conversion and retention rates in their marketing campaigns.

However, the study still has notable limitations. Firstly, the generalizability of the results may be compromised as a majority of samples were obtained from university students. Therefore, future study is suggested to be conducted with a larger scope and extended sample size to increase statistical power. Secondly, the research is cross-sectional, as the data were gathered at a single point in time and in a setting where early adopters of Wealth Tech services in Vietnam. After the Covid-19 epidemic, there may be a change in user uptake and market evolution, necessitating longitudinal studies tracking user pattern variations over time. Thirdly, while examining user perspectives on the adoption of

Wealth Tech services in a developing nation such as Vietnam, the study did not focus on other influencing elements such as trust and user demographic aspects such as field of expertise and industry of employment. Thus, to better analyze the adoption model of Wealth Tech services, the subsequent research should develop a more comprehensive model by re-testing the model and exploring new factors. In particular, future studies can investigate three external factors across regions that influence FinTech adoption, namely, digital capabilities, macroeconomic perspective, and regulatory environment [60].

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