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Factors Affecting Investor Adoption of Online Stockbrokers

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ABSTRACT

After the COVID-19 pandemic, a surge in new stock investors, motivated by the pursuit of alternative income, fear of missing out, and social media influence, has heightened global stock market activity. This surge underscored the necessity of online stockbrokers as streamlined platforms for facilitating communications with investors and executing their transactions. This study investigates the adoption of online stockbrokers among Indonesian investors, focusing on both desktop and mobile users to provide a holistic understanding of the domain. Extending the Unified Theory of Acceptance and Use of Technology framework with additional constructs — System Quality, Perceived Reputation, Trust, Risk, and Price Value — this research examines diverse factors influencing investor adoption. Using survey data from 143 investors and analyzing it with Partial Least Squares-Structural Equation Modeling, the study identifies the pivotal roles of performance expectancy, system quality, and social dynamics like perceived reputation and social influence as significant predictors of adoption. The findings reflect a shift from traditional, personalized stockbroker interactions to accessible, efficient digital platforms and emphasize the critical role of social dynamics in driving the adoption of financial services. Lastly, the study offers theoretical insights and practical recommendations for advancing financial services, particularly in contexts where users prioritize high complexity and feature-rich platforms, by highlighting the critical factors driving online stockbroker adoption.

Keywords: Online stockbroker; UTAUT; system quality; information technology; financial service adoption; online trading; stock trading

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INTRODUCTION

After the COVID-19 pandemic, there has been a notable surge in new investors, constituting 15% of the total investors [1]. This influx is accompanied by a parallel increase in the volume of trades in global stock markets, indicative of heightened market activity post-pandemic [2]. Various factors can be ascribed to the surge of new investors that occurred during the pandemic, including the pursuit of alternative income streams, the emergence of stock market influencers during quarantine periods, and the social media-driven fear of missing out [2]. These findings present an opportunity for stockbrokers to expand their client base and engage with an expanding demographic of investors seeking to trade stocks.

Historically, stock trading was mainly done with person-to-person interaction, which involved the stockbrokers communicating intensively via face-to-face meetings and phone-based trading [3]. Although person-to-person interaction can have advantages in increasing personal connections between stockbrokers and investors, it could also create inefficient, slow, and inaccurate communication between the two parties [4]. However, while the core legalities of stockbrokers within the financial service market have remained relatively constant, the stock trading mechanism has evolved dramatically. Today, technology integration into financial markets has revolutionized how investors trade, allowing for more streamlined and efficient trading experiences [3]. This technological shift significantly reduces the aforementioned communication barriers and enhances the accessibility and speed of stock market transactions [3]. This transformation signifies a pivotal shift from communication-intensive trading to one that is technologically mediated, facilitating more efficient, accurate, and accessible stock trading [4]. Investors are no longer required to communicate directly with their stockbrokers; instead, investors can directly access the financial market through stockbroker applications accessible across various devices [3].

For the stock brokerage firms nowadays, rather than focusing on giving the best salesmanship within every call, stock brokerage firms are more focused on building an online platform that may satisfy their customers through its features [3]. Investors, who demand essential aspects such as responsiveness, timely

updates, and security, force stock brokerage firms to adapt and evolve. Since the early 2000s, stock brokerage firms have consistently improved their services by introducing innovative features for investors, such as live price updates, price alerts, and stock screeners [5]. Concurrently, efforts are being dedicated to augment various facets, including UI/UX design, cross-device compatibility, and server stability, which aim to enhance investors' efficiency and effectiveness in stock trading [3]. Numerous additional features, encompassing two-factor authentication, transaction confirmations and receipts, and login credentials, have also been integrated into the application. This deliberate augmentation of features aims to instill confidence in investors and foster a sense of security to improve online stockbroker services [3].

Despite the recent proliferation of stock markets, an integral component of financial markets, a discernible gap exists in the literature regarding the specific examination of stockbrokers as online financial service providers. Literature has documented various determinants influencing customers' choices in e-financial services. However, given recent developments, e-financial services have evolved into multifarious variations to fulfill diverse needs [6]. In stock brokerage, customer needs and preferences differ markedly from those of, for example, a mobile banking service [7]. Online stockbroker, as a part of online financial services, has been far overlooked [7]. Thus, this paper aims to enhance understanding of online stockbroker adoption, an area previously overlooked, as research has primarily concentrated on topics like service quality and customer retention. The previous focus creates a knowledge asymmetry as investors must first adopt these services to appreciate their quality and programs, highlighting the importance of adoption in this field.

Furthermore, another study underscored the importance of system quality in adopting technology [8]. On the other hand, the studies of online stockbrokers as a technology have not yet included system quality. The studies on the factors that influence people to adopt mobile stock trading have included variables such as risk, literacy, and familiarity [3, 8]. Although these studies are helpful, the main differentiator between the previous traditional stockbrokers and online stockbrokers, the system quality, is not yet covered in the literature [6, 9].

In analyzing the adoption of online stockbrokers, this paper proposes to conduct broader research on the devices investors use. The limited focus on the use of mobile stock trading applications in previous studies potentially becomes a knowledge gap in the understanding of online stockbrokers [3, 4]. While in the context of other online services, such as education and shopping, the uses of desktop and mobile applications have differences in the purpose of use, barring technical specificity, convenience, expected performance, and many other aspects [10]. As identified by the different needs of desktop users compared to their mobile counterparts, this study expands its scope to include desktop stockbrokers as a crucial part of its main research question [10].

In this study, the main research question is "What are the main factors influencing the adoption of online stockbrokers, which include desktop and mobile stockbrokers, as a financial service?". Following the main research question, this study highlights the significant research gaps to be filled. First, there is a lack of understanding of the online stockbroker compared to other online financial service providers. Second, this study aims to broaden the knowledge on online stockbroker adoption, which differs widely and is argued to be more crucial than its service quality, customer relationship management, and others. Third, there is a need to include the desktop stockbroker as a study object, which also evolves and improves alongside its mobile counterparts, which both comprise online stockbrokers. Lastly, the impact of System Quality in assessing financial technology adoption has not yet been studied. In this study, other variables will also be included, namely Price Value, Risk, Trust, and Perceived Reputation, in understanding online stockbrokers using the theoretical model of UTAUT. Addressing these gaps will offer a comprehensive understanding of online stockbrokers as a conceptual model that warrants further studies and discussions for stock brokerage firms and financial service providers.

LITERATURE REVIEW

Online Stockbroker

The term "online stockbroker" defines a contemporary financial service provider specializing in mediating stock trades through digital applications. Online stockbrokers have been replacing conventional brokerage practices [9]. A unique attribute that has given rise to its popularity is an array of tools encompassing real-time market and stock data, price alerts, stock screeners, electronic transaction

records, facilitated access to comprehensive financial reports, and many more tools [4]. Online stockbrokers nowadays are also available on mobile applications, thus broadening their use.

The term "online stockbroker" is the most appropriate term, as it encompasses both mobile and desktop users engaged in stock trading applications. The online stockbroker is a broad term that defines any stockbroker who provides brokering for stock trading done on various devices, including desktop applications, mobile phones, and others, with an internet connection.

The highly used features affect the popularity and the use of online stockbrokers [4]. The importance of online stockbrokers is notable in their escalating adoption by individual and institutional investors. This surge in utilization indicates a trend wherein market participants increasingly lean toward the technologically sophisticated and digitally mediated landscape made by online stockbrokers [8].

HYPOTHESES DEVELOPMENT

The Unified Theory of Acceptance and Use of Technology (UTAUT)

The Technology Acceptance Model (TAM) has been widely used to predict and explain behavior across diverse user technologies [11]. TAM posits that perceived usefulness and perceived ease of use are fundamental determinants of technology acceptance, significantly influencing user acceptance decisions [11]. However, TAM encounters limitations in its ability to encapsulate the complexity of user acceptance in more dynamic and varied contexts. For instance, the model has been critiqued for its simplicity and the exclusion of external variables such as social influence, which can be critical in certain technological adoptions, including the adoption of online stockbrokers, whose adopters, investors, have been widely studied to be influenced by their social environment.

Given that online stock trading represents an innovative service utilizing information systems, this study proposes to utilize the Unified Theory of Acceptance and Use of Technology (UTAUT) to elucidate the behavioral intentions of stock investors. Specifically within the realm of online financial services, UTAUT has been widely used as the theoretical basis for understanding technology-based financial services adoption [3]. Thus, in this study, we argue that the constructs of UTAUT influence individuals' behavior in adopting an online stockbroker. Within UTAUT, the determinants of intention to use and adoption revolve around four pivotal factors: performance expectancy, effort expectancy, facilitating conditions, and social influence, derived from insights drawn from eight adoption theories, which are all hypothesized in this study [11].

First, Performance Expectancy (PE), defined as the extent to which an individual anticipates that using an information system will enhance their performance, is critical in this context. Based on the studies of technological factors such as Usefulness, Job-fit, Outcome Expectation, Relative Advantage, and Extrinsic Motivation, which have evaluated an individual's performance expectancy of an information system within the UTAUT framework and its related theories, there were significant relations between the utility and the adoption in the context of technology innovation [12]. The constructs align with the premise that individuals are inclined to make changes, such as adopting a technology, if they perceive benefits. PE is significant in other studies of similar online financial services such as Internet banking, mobile banking, mobile trading, and others [3]. In the context of online stockbrokers nowadays, PE is not limited to executing stock trades; online stockbrokers are also required to enhance their investors' performance through their features. Thus, we hypothesize that:

H1: *Performance expectancy positively affects users' behavioral intention toward adopting an online stockbroker.*

From the user's perspective, complexities and confusion in applying and understanding an information system may impede adoption [12]. Consistent with prior theories, Effort Expectancy (EE), representing the ease of use of a system, becomes a crucial metric for gauging user adoption [12]. On adopting Internet banking services, an empirical study argued that ease of use is the second criterion in choosing a digital bank [13]. Similarly, in the context of online stockbrokers, we hypothesize that the same phenomenon occurs. Thus, we hypothesize that:

H2: *Effort expectancy positively affects users' behavioral intention toward adopting an online stockbroker.*

From the user's viewpoint, external factors, manifested in the individual's desire for positive perceptions from essential others such as family and friends, impact an individual's behavioral outcomes [11]. The social environment shapes an individual's behavioral

consumption. Describing and measuring this external factor, Social Influence (SI) incorporates constructs such as Subjective Norms, Social Factors, and Image to gauge an individual's social realm in adopting a technology [11]. The social environment is also seen as an important factor shaping the investors' stock decisions. In similar conditions, the service preference of consumers has also been influenced by their social environment. Online stockbrokers work as a service provider and a part of the stock market. Thus, we hypothesize that:

H3: *Social influence positively affects users' behavior and intention toward adopting an online stockbroker.*

Furthermore, Facilitating Conditions (FC), which assesses the internal and external capabilities of assistance in using technology, indicates individual technology acceptance [11]. Since transactions and interactions with an online stockbroker primarily occur through online platforms, the availability of "always-ready" assistance from the company or a specific person is argued to be a significant factor in technology adoption [14]. Besides the external condition, a person's experience, knowledge, and resources, which lead to its efficacy, are also seen as a facilitating condition to adopt a technology [14]. Under these conditions, the investors would have no technical issues, which would enhance the chance of adopting the online stockbroker. Thus, we hypothesize that:

H4: *Facilitating condition positively affects users' behavior intention toward adopting an online stockbroker.*

Risk

Risk is the degree of expected loss with a sense of uncertainty about the outcome of a technology adoption [15]. Uncertainty undermines an individual's sense of security, hindering the adoption of an innovation [16]. Individuals typically resist changes that entail inherent risks, such as those associated with embracing novel technological innovations [15]. This phenomenon also extends to the financial domain, as evidenced by research findings within the realm of financial technology innovation, such as mobile banking and e-wallets [17]. Concerning the stock market, the domain of stockbrokers, risk in an investing decision has been studied as an essential measure of investor behavior [3]. Risk may also be relevant in assessing an online stockbroker as the facilitator of investment decisions. Thus, this paper proposes the following hypothesis:

H5: *Risk negatively affects users' behavioral intention toward adopting an online stockbroker.*

Trust

Trust is the degree of belief that another party is dependable and can be relied upon, making that person feel secure [18]. In technology adoption, trust plays a pivotal role as individuals must believe in the reliability of the technology they adopt [18]. The reliability also extends to security and privacy when using a particular technology [18]. Specifically, in the financial sector, trust is a significant customer need [18]. Individuals must trust that the institution will safeguard their hard-earned assets before investing them. In this study, an online stockbroker represents both a technology that is adopted and a service specializing in the financial sector [18]. Thus, this paper proposes the following hypothesis:

H6: Investors' trust positively affects users' behavioral intention toward adopting an online stockbroker

Trust plays a pivotal role in alleviating heightened perceptions of risk in the context of technology adoption. It serves as a psychological buffer that reduces the anxiety associated with the uncertainties in engaging with digital transactions [18]. The relationship between trust and perceived risk is further underscored by empirical findings. For instance, a study observed that trust mitigated the perceived risks associated with mobile trading applications [19]. The findings suggest that trust not only enhances the likelihood of technology adoption but also plays a critical role in how users assess the risks involved. For online stockbrokers, as stock trading often involves hardly earned money, the risk perception of the investor must be alleviated by the trust of the stockbroker. Thus, we hypothesize that:

H7: *Investors' trust negatively affects perceived risk.*

Perceived Reputation

Perceived reputation, defined as the perceived credibility accorded to an organization by its key stakeholders, serves as a cornerstone in shaping customer expectations and behaviors [17]. Furthermore, studies suggest that a reputable image can mitigate perceived risks associated with online transactions, enhancing the attractiveness of adopting online financial services [17]. Literature also suggests that reputation is a reliable predictor of customer behavioral intentions, especially regarding

innovative technologies like online trading platforms [20]. This is particularly relevant in the context of online stockbrokers, where physical cues are absent, and the intangible aspects of service provision — like perceived reputation — become crucial determinants of customer trust and acceptance. This linkage between perceived reputation and quality of advice is vital in the online brokerage context, where advice quality directly affects client trust and, subsequently, their willingness to engage with the platform. Thus, this paper proposes the following hypothesis:

H8: *Perceived reputation positively affects users' behavioral intention toward adopting an online stockbroker.*

In the context of an online stockbroker that conducts its operations through over-the-network platforms, investors are mainly devoid of opportunities for in-person interactions with representatives of the stock brokerage. This absence may result in diminished trust, as investors lack the verbal reassurances conveyed through spoken persuasion, body language, and facial expressions [21]. A viable remedy lies in cultivating a robust corporate reputation, instilling confidence despite the absence of nonverbal cues. Consequently, reputation instills trust and confidence in investors, alleviating apprehensions and fostering a more positive disposition towards adoptions. Thus, this paper proposes the following hypothesis:

H9: Perceived reputation positively affects users' trust.

Price Value

Price value represents the balance consumers perceive between the perceived benefits of a product or service and the monetary costs associated with it [22]. Higher price value represents higher perceived benefits relative to its cost. Scholarly investigations, particularly within the realm of marketing, have posited that, in gauging costs from the consumer's standpoint, it is imperative to incorporate benefits into the assessment [23]. Superior perceived value enables the customer, from a logical standpoint, to adopt or consume a product and service [23]. In light of recent developments in online stock brokerage, these platforms have facilitated increased efficiency for stockbrokers as intermediaries in stock transactions, thereby reducing operational costs [5]. This heightened efficiency has allowed stockbrokers to charge considerably reduced brokerage fees and fees for ancillary services encompassed within their offerings. Thus, this paper proposes the following hypothesis:

H10: *Price value positively affects users' behavioral intention toward adopting an online stockbroker.*

System Quality

System quality refers to the degree of satisfaction and usefulness of the system used within the adopted technology [24]. System Quality as a construct, comprised of twelve other measures, had been used to evaluate engineered characteristics built within the system [25]. As the online stockbroker needs an online system that becomes its platform of stock brokering, the system's functionality, stability, completeness, responsiveness, and accessibility influence the intention to adopt. Moreover, the system itself differentiates online stockbrokers from their more conventional counterparts. Furthermore, this theory has been proven to have a significant effect on behavioral intention to adopt online financial services [25]. Thus, this paper proposes the following hypothesis:

H11: *System quality positively affects users' behavioral intention toward adopting online stockbroker.*

RESEARCH METHOD

Measurement Instrument and Data Collection

The population comprises individuals who trade stocks via online brokers, identified through a questionnaire that screens for stock ownership and broker usage. Respondents not meeting these criteria are excluded. The study targets both desktop and mobile users, employing convenience sampling based on geographical proximity, availability, and accessibility. To collect the data, a Google Form, developed from literature-based constructs and items, was distributed from January 23rd to February 6th, 2024, across social media platforms, including WhatsApp, X, and Stockbit Stream. G*Power software set the sample size at 114, based on a 0.80 statistical power and a 0.05 alpha level, to evaluate nine predictors of online stockbroker adoption [26]. Google Forms ensured complete responses through its response validation feature.

The questionnaire was divided into three parts. The first part consisted of screening and demographic questions, which omitted respondents who were not in the target sample. The second part covered questions regarding their use of online stockbrokers. The third part contained the questions related to the hypothesis tests. Every question used a Likert scale that ranges

from 1 (strongly disagree) to 5 (strongly agree). Items that measured the same construct and the reversed items were dispersed along the questionnaires to reduce repeated information in adjacent related items.

143 out of 171 responses were deemed valid after filtering for unattentiveness using two reverse-coded questions. From the respondents, male respondents comprised two-thirds of the respondents, aligning with the gender ratio reported in Indonesian investor demographics [27]. The majority of respondents were aged 17–26 years (46.15%), followed by 27–36 years (20.98%), while the rest were aged more than 37 years old. 88.11% had used their online stockbrokers within the past week, and over a third reported a monthly income below IDR 5,000,000.

Data Analysis

The study employed the nonparametric partial least squares structural equation modeling (PLS-SEM) method, using SmartPLS 4.0, to test hypotheses [28]. PLS-SEM is preferred in social and behavioral sciences for its predictive power and effectiveness in handling complex models with multiple predictors [28]. PLS-SEM also suits the need to accurately measure and understand complex phenomena [28].

The study assessed construct convergent reliability using Composite Reliability (CR) and Cronbach's α, where each item exceeded the satisfactory threshold of 0.7, indicating stable consistency [28]. All factors also surpassed the minimum CR value of 0.6, and the Average Variance Extracted (AVE) for each exceeded the recommended 0.5, confirming the questionnaire's convergent validity [28]. Collinearity was analyzed using the Variance Inflation Factor (VIF), with all constructs showing values below the cutoff of 10, except for perceived reputation, which was slightly higher at 10.266 but still considered acceptable due to strong performance in other tests [28]. Test results are available in *Table*.

Discriminant validity was also assessed using the Fornell-Larcker criterion, cross-loading, and Standardized Root Mean Square Residual (SRMR), which are standard in marketing PLS-SEM research [28]. The Fornell-Larcker criterion was met as the square root of the AVE for each construct was greater than the correlation coefficients with other constructs, ensuring distinctiveness [28]. Cross-loading supported discriminant validity by confirming that each item's loading on its construct was higher than on any other [28].

Hypotheses were tested using PLS-SEM bootstrapping with 5000 resamples. The bootstrapping technique was selected due to its capability to handle a sample size of fewer than 300 samples to produce more robust estimates compared to other alternative methods [28]. The technique's applicability has been validated by numerous studies within the financial services sector, reinforcing its reliability [7, 25]. This preference underscores the bootstrapping technique's advantages and suitability for this study.

The results of the PLS estimation are shown in *Fig*. The result shows the relationship between PE ($\beta = 0.301$; $p = 0.01$), SI ($\beta = 0.183$; $p = 0.012$), PR ($\beta = 0.280$; $p = 0.065$), and SQ ($\beta = 0.466$; $p = 0.000$) and BI which supports H1, H3, H8, and H11 respectively. The result does not find the relationship between EE ($\beta = -0.076$, $p = 0.497$), FC ($\beta = -0.027$, $p = 0.745$), risk ($\beta = 0.054$; $p = 0.425$), trust ($\beta = 0.101$; $p = 0.379$), and PV ($\beta = -0.155$; $p = 0.221$) and behavioral intention which rejects H2, H4, H5, H6, and H10 respectively. Although the links between trust and risk to BI are not found, this paper reports that the relationship between PR to trust (H9) and trust to risk (H7) is supported by the result. This study also reveals indirect relationships between PR and risk via trust ($\beta = -0.594$; $p = 0.000$). Overall, the coefficient of determination (R^2) was high, with SQ and PE being the most influential factors in behavioral intention toward online stockbroker use, explaining 87.7% of the variance. Trust accounted for 42.8% of risk, and PR explained 82.4% of trust.

DISCUSSION

General Discussion

This study delves into the factors influencing the adoption of online stockbrokers, highlighting the significant roles of performance expectancy and system quality as key predictors, consistent with prior research [7, 25]. Investors place high value on these elements due to their direct benefits in achieving optimal outcomes and ensuring robust functionality, which is crucial in their investment decisions. Additionally, the study emphasizes the importance of emotional and social factors, such as social influence and perceived reputation, which strongly affect adoption rates. These factors underscore how peer advice and social standing significantly influence investor behavior, supporting the idea that decisions are not solely based on functionality but also social validation and reputation.

Table

Factor Loading, Cronbach α, CR, and AVE

Variable	Item	Factor Loading	Cronbach	CR	AVE
Behavioral Intention	BI1	0.946	0.925	0.93	0.818
	BI2	0.906			
	BI3	0.832			
	BI4	0.93			
Effort Expectance	EE1	0.855	0.907	0.916	0.782
	EE2	0.901			
	EE3	0.897			
	EE4	0.883			
Facilitating Conditions	FC1	0.903	0.901	0.904	0.772
	FC2	0.875			
	FC3	0.854			
	FC4	0.881			
Performance Expectance	PE1	0.734	0.864	0.875	0.647
	PE2	0.816			
	PE3	0.812			
	PE4	0.809			
	PE5	0.846			
Perceived Reputation	PR1	0.926	0.903	0.91	0.838
	PR2	0.881			
	PR3	0.937			
Price Value	PV1	0.884	0.915	0.922	0.855
	PV2	0.954			
	PV3	0.935			
Risk	R1	0.898	0.803	0.829	0.631
	R2	0.673			
	R3	0.748			
	R4	0.84			
Social Influence	SI1	0.867	0.9	0.902	0.719
	SI2	0.886			
	SI3	0.915			
	SI4	0.698			
	SI5	0.857			
System Quality	SQ1	0.921	0.935	0.937	0.838
	SQ2	0.906			
	SQ3	0.932			
	SQ4	0.902			
Trust	T1	0.914	0.912	0.916	0.792
	T2	0.846			
	T3	0.93			
	T4	0.866			

Source: Compiled by the authors.

Contrary to previous findings, this research identifies no significant impact of trust and risk on the adoption of online stockbrokers. This deviation can be attributed to the operational nature of stockbroking, where the custody of investors' funds is managed by custodian banks rather than the brokerage firms themselves, thus reducing the perceived direct risk and need for trust in the stockbrokers [29].

Furthermore, the findings suggest that effort expectancy and facilitating conditions — factors that often influence adoption in other technological and financial services — do not play a significant role in online stockbrokers' adoption. This may be due to the specific characteristics of online stockbroker users, who generally possess a higher degree of financial knowledge and a tolerance for technological complexities. This higher proficiency and self-sufficiency among stock market investors means they are less reliant on external assistance and more confident in navigating the complexities of online platforms [30].

In summary, while performance expectancy and system quality are critical to the adoption of online

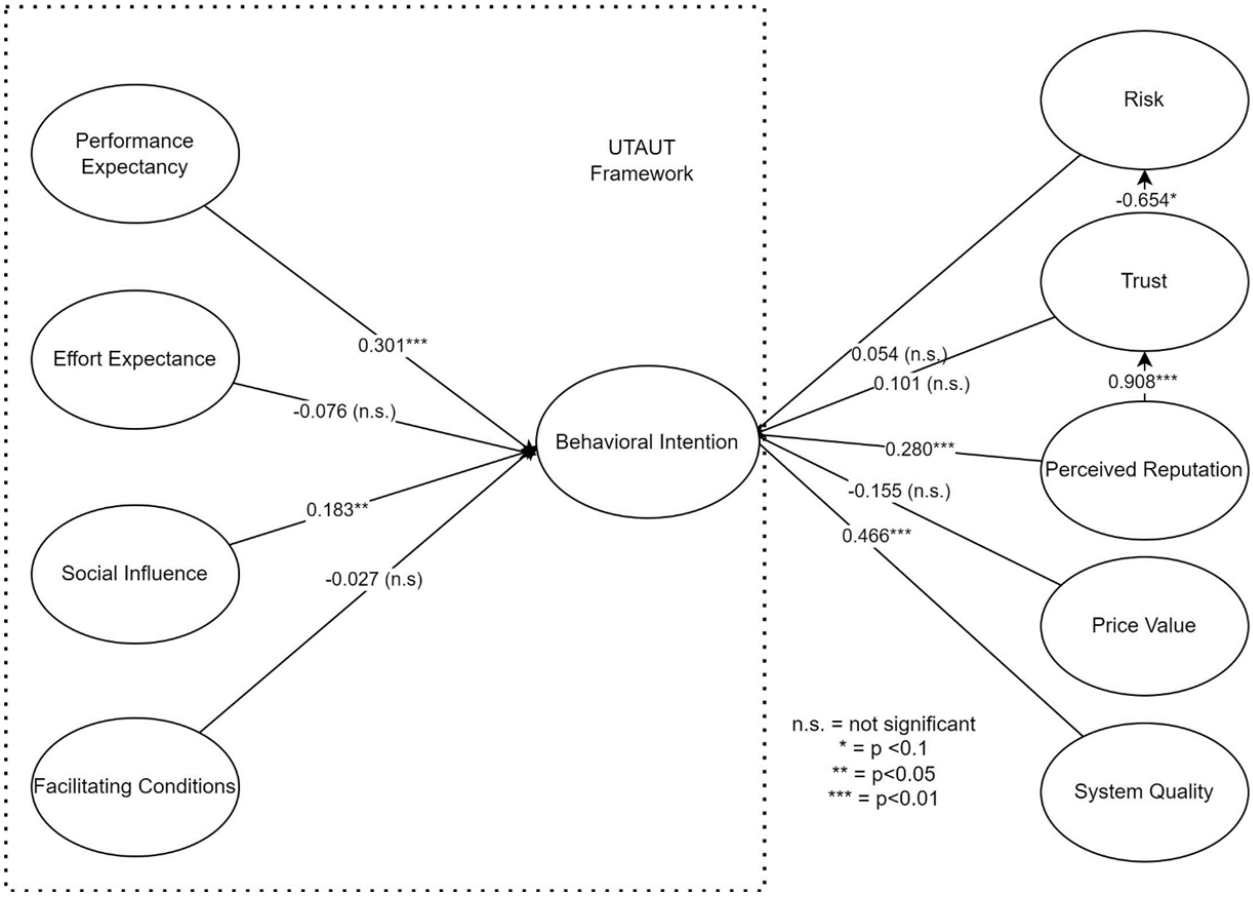

Fig. **SEM Result**

Source: Compiled by the authors.

stockbrokers, the influence of social dynamics and individual competencies also plays a vital role. These findings enrich the understanding of how various factors converge to influence investor behavior in the digital transformation of stock market services.

CONCLUSION

Theoretical Implications

Our study scrutinized the discrepancies between the theoretical UTAUT model and actual results concerning technology adoption in stock trading, revealing only partial support for the model. This raises concerns about UTAUT's generalizability, especially in online stockbroking contexts. Furthermore, we consider perceived reputation and system quality as significant predictors influencing the adoption of online stockbrokers, while variables like price value, trust, and risk showed no significant effect.

Theoretical contributions of this research include: (1) highlighting online stockbrokers as an under-researched area in financial technology; (2) proposing modifications to the traditional UTAUT model to better fit high-tech, complex financial environments like online stockbroking; (3) emphasizing the use of term "online stockbrokers" to examine online stock trading service users on both desktop and mobile applications.

Furthermore, this study advocates for a revised understanding of "online stockbroker", distinguishing it from traditional stock trading methods, to better encapsulate the nuances of digital trading platforms. Additionally, by including desktop users, this study expands the scope of stockbroker research, traditionally focused on mobile trading, to provide a more inclusive view of online stockbroker user behavior.

The partial support for UTAUT in our findings suggests that theoretical models must be adaptable and consider industry-specific factors. This study underscores the distinctiveness of financial service consumers, particularly online stockbroker users, which necessitates a different marketing approach compared to other fields to increase adoption rates. For example, the significance of perceived reputation and system quality in influencing online stockbroker adoption highlights

the need to integrate these factors into future theoretical frameworks for online stockbroking. By identifying these practical predictors, our study lays the groundwork for refining UTAUT to better capture the complexities of financial technology adoption. This synergy between theoretical constructs and practical strategies highlights the importance of an ongoing feedback loop, where theoretical insights inform real-world applications and practical experiences shape theoretical advancements.

Managerial Implications

The study highlights key strategies for financial service providers to boost the adoption of online stockbrokers among investors. Firstly, it is crucial to enhance the functionality and performance of online stockbroker systems, such as improving system quality and offering features like stock screeners and real-time updates. This addresses investors' expectations for optimal outcomes and technological robustness. Additionally, increasing the system quality accessibility by reducing internet lag, system malfunctions, and loading times is essential.

Emotional factors like social influence and perceived reputation also play significant roles in adoption. In driving investors' adoption, online stockbrokers must be socially present through peer advice and societal perceptions, which could impact the investors' adoption. Providers could focus on fostering positive word-of-mouth, engaging with influencers, and building a strong brand image to increase adoption rates. Furthermore, maintaining transparency and reliability can further enhance a broker's reputation and facilitate smoother adoption processes.

Lastly, while the study doesn't directly link trust and risk with adoption intentions, it is still advisable that online stockbrokers work with reputable custodian banks to foster trust and minimize risks, as these elements are critical in financial services.

Limitations and Future Research

Despite the valuable insights provided by this study, several limitations must be acknowledged. Firstly, financial services adoption studies need industry-specific considerations; this study covers only the scope of online stockbrokers. Future research could explore other underexplored financial services to provide a more comprehensive understanding of the nuances in technology adoption across the financial sector.

Secondly, while there are many changes and improvements made in online stockbrokers, this study has not thoroughly examined the specific features and functionalities of online stockbroker systems that drive the adoption of online stockbrokers. Future research could explore the detailed aspects of system design and user experience that contribute to perceived system quality and performance expectancy. Understanding these specific features can help in developing more effective and user-friendly online stockbroker platforms.

Thirdly, this study advocates for a revised understanding of "online stockbroker" that includes both desktop and mobile users. Despite its long existence, online stockbroking has been insufficiently researched and understood. Future research should continue to explore the differences and similarities in user behavior and preferences across these platforms, as well as how emerging technologies, such as artificial intelligence, influence adoption patterns. Additionally, understanding the different types of investors, such as individual or institutional investors, might reveal further understanding of online stockbroker users' behavior. This expanded focus will provide a more holistic view of the online stockbroking landscape and its evolving dynamics.

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