

Examining the Adoption of Metaverse and Accounting Information Systems in Business Strategy

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Abstract

This study investigates the behavioural intention behind the adoption of Accounting Information Systems (AIS) and Metaverse technologies in small- and medium-sized enterprises (SMEs), focusing on business satisfaction as a critical mediator. With the rapid evolution of digital transformation, the integration of AIS and immersive Metaverse environments is reshaping financial transparency and customer engagement. This research extends the existing literature by integrating the Unified Theory of Acceptance and Use of Technology (UTAUT) with constructs like business satisfaction and purchase intention, addressing a gap in prior models. A quantitative, cross-sectional design was adopted, involving data collection from 286 professionals across SMEs through structured surveys. Data were analysed using Partial Least Squares Structural Equation Modelling (PLS-SEM) via SmartPLS to examine relationships among performance expectancy, effort expectancy, social influence, and facilitating conditions. The findings reveal that business satisfaction strongly mediates the relationship between behavioural intention and actual use behaviour. Performance expectancy emerged as the most influential predictor, while effort expectancy had a weaker effect. This research contributes to technology adoption theory by positioning business satisfaction as a central construct. The results are valuable for digital strategy developers, especially in the financial and retail sectors, aiming to integrate Metaverse and AIS platforms for sustainable business transformation.

Keywords: Metaverse, Accounting Information Systems, UTAUT, Business Satisfaction, Behavioural Intention, Technology Adoption, PLS-SEM.

Introduction

Financial organizations are adopting Emerging Technologies including Metaverse alongside Accounting Information Systems (AIS) because of the business digital transformation. Small- and Medium-Sized Enterprises (SMEs) alongside other organizations choose to implement these digital technologies because they enhance operational efficiency alongside decision-making capabilities and customer relationship management (Alquhaif & Al-Mamary, 2024). As the Metaverse is also becoming a decentralized technology to create new strategic opportunities for businesses, their use today can be enhanced through digital spaces which serve as better user journeys and transaction capabilities (Gil-Cordero et al., 2023). AIS is necessary for business

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processes to satisfy financial reporting requirements and regulatory standards as well as to automate the processes. If one understands why users adopt these technologies, then it means the business can perform this technology so that the business will succeed (Ledesma-Chaves et al., 2023). The Unified Theory of Acceptance and Use of Technology (UTAUT) framework which is collected from Venkatesh et al. (2003) can play the role of an effective tool for the analysis of AIS, supplemented with Metaverse adoption factors, but still is based on the performance expectancy variable along with effort expectancy and facilitation condition.

Venkatesh et al. proposed a technique in the year 2003 and thus, VTAUT has turned beyond a mainstream technique to research technology acceptance and user behaviour. Based on this model, we show that behavioural intention is developed by the combined effect of useful perception, easy usability, social backing, and organizational resource benefits (Al-Mamary et al. 2023). Maldonado-Lopez et al. (2023) recently developed the model through the addition of the important intermediary factor of business satisfaction for the AIS and Metaverse adoption. As firms place continued usage of these technologies, they will continue using them if they perceive high benefits as indicated by Ledesma-Chaves et al. (2023), their business satisfaction. The strong infrastructure coupled with training and motivation of the users is the backbone of the AIS and Metaverse ecosystem therefore it necessitates an evaluation of behavioural intention to adoption (Gil-Cordero et al., 2023). Performance expectancy, as a major factor that affects technology adoption, is to what extent users believe that a system will bring improvements in job efficiency and decision-making ability (Venkatesh et al., 2003). In AIS adoption, this means enhanced financial accuracy, auto reporting, and regulatory compliance (Alquhaif & Al Mamary, 2024). On the other hand, SMEs use Metaverse for its expectations of improving customer interaction, virtual product experience, and e-commerce opportunities (Gil-Cordero et. al, 2023). Nevertheless, the most important barrier to adoption is yet effort expectancy, which relates to how easy or awkward the usage of the product is perceived (Maldonado-Lopez et al., 2023), something that proves difficult for small businesses that do not possess technical expertise or literacy. User-friendliness is important to ensure these technologies are adopted more by their users (Ledesma-Chaves et al., 2023).

Introduction to the Industry

Technologies moving at the speed of digital has transformed industries in a way that businesses are required to adopt emerging technologies to ensure operational efficiency, connect with customers, and make data-driven decisions (Gil-Cordero et al., 2023). Accounting Information System integration and Metaverse transformation of business models are transforming the business by allowing companies to automate financial processes and use the Immersive Digital Environment for better customer interactions (Alquhaif & Al-Mamary, 2024). In the present scenario, Industry 4.0 has brought businesses towards AI-based automation, Blockchain and crypto-based financial security, and virtual commerce on the Metaverse (Ledesma-Chaves et al., 2023). AIS adoption gives transparency, regulators compliance, and real-time information, whereas Metaverse gives businesses virtual storefronts, digital assets, and a new marketing platform (Maldonado Lopez et al., 2023). They are changing the face of digital commerce, financial management, and enterprise innovation (Al-Mamary et al., 2023).

Due to the presence of AIS in modern enterprises, they now become an important and vital part of the organization, which helps to achieve accuracy in the organization's financial data and to secure the data and automate the reporting processes (Alquhaif and Al-Mamary, 2024). Cloud-based AIS has been adopted by many businesses, especially SMEs and large corporations, to ensure that their

business is scalable, efficient cost-wise, and remains with international accounting standards (Ledesma-Chaves et al., 2023). An expansion of the global AIS market has occurred due to the growing demand for data-driven financial solutions (Gil-Cordero et al., 2023). With the combination of AIS and AI, as well as blockchain, companies can take advantage of real-time financial insights, fraud prevention, and optimization of processes (Maldonado-Lopez et al., 2023). In addition, governments around the world are promoting AIS adoption for matters of tax compliance and saving away from financial mismanagement (Al-Mamary et al., 2023). There is good reason for AIS to be one aspect impacting the growth of these industries and, more broadly, the impact of emerging technology in other sectors. As we are experiencing, the Metaverse is transforming industries by fostering realistic digital spaces that enable the advancement of customer engagement and business innovation (Gil-Cordero et al., 2023). Indeed, retail, finance, real estate, as well as education companies, are increasingly exploring applications that leverage Metaverse in which virtual storefronts could be built, provide remote business operations, or function as platforms to host digital events (Ledesma-Chaves et al., 2023). Nonfungible tokens (NFTs), virtual property, and AI-driven customer experiences are the subject of investments by businesses because of the advancement of augmented reality (AR), virtual reality (VR), and blockchain-based digital assets (Maldonado-Lopez et al., 2023). Other financial applications, such as virtual banking, digital payment systems, and trading cryptocurrency applications, are also integrated with Metaverse in the financial sector (Alquhaif & Al-Mamary, 2024). Such a transition is not only consistent with global digital transformation trends where businesses are revolutionized to build interconnected digital ecosystems that strengthen brand image, customer retention, and revenue generation (Al Mamary et al., 2023).

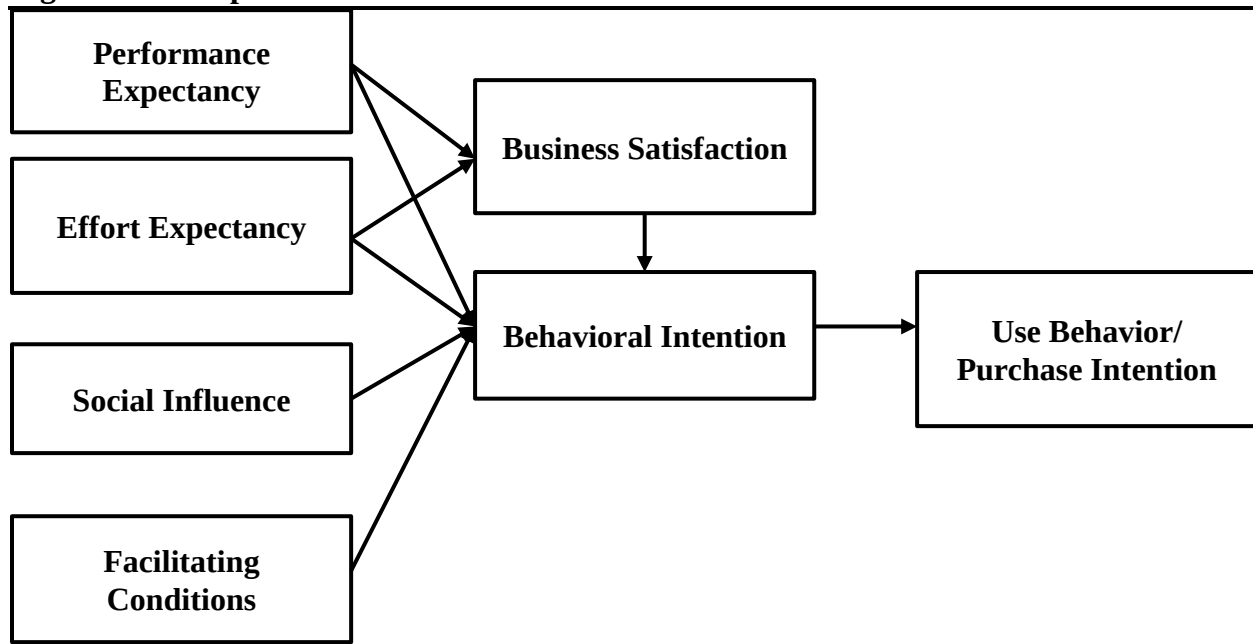
Theoretical Model

Unified Theory of Acceptance and Use of Technology (UTAUT)

The most widely used model of adoption of technology is the Unified Theory of Acceptance and Use of Technology (UTAUT) identified by Venkatesh et al. (2003). The model combines eight leading theories of the Technology Acceptance Model (TAM) and the Theory of Planned Behaviour (TPB) to portray the user's instruments and behaviour in the use of technology. The timeliness of the model has been evidenced by UTAUT being applied in Accounting Information Systems (AIS) and the Metaverse in the past few years (Gil-Cordero et al., 2023; Alquhaif & Al-Mamary, 2024; Maldonado-Lopez et al., 2023). UTAUT isolates four core constructs (performance expectancy, effort expectancy, social influence, and facilitating conditions) that influence behavioural intention and usage behaviour.

Diffusion of Innovation Theory (DOI)

The theory of diffusion of innovations (DOI) by Rogers (1962) is used by authors to explain how new technology and ideas spread out in a social system through time. Also, DOI dictates the principal factors influencing the adoption, such as innovation characteristics, communication channels, time, and social systems. However, current uses of DOI are focused on the adoption of disruptive technologies like AIS and the Metaverse mainly among the SMEs (Ledesma-Chaves et al., 2023; Gil-Cordero et al., 2023). Early adopters may be vital to digital transformation strategies since the theory explains how early adopters prompt wider organizational acceptance (Alquhaif & Al-Mamary, 2024). Moore and Benbasat (1991) later refined DOI's constructs for technology contexts by focusing on constructs such as relative advantage and compatibility.

Figure 1: Conceptual Framework

Hypothesis Development

Performance Expectancy and Behavioral Intention

So-called "performance expectancy" refers to the degree to which a person believes that the application of a particular technology would assist him or her in improving job performance (Venkatesh et al., 2003). Several present-day studies truly emphasize the influence of performance expectancy in promoting the adoption of Accounting Information Systems (AIS) and Metaverse technologies (Gil-Cordero et al., 2023; Alquhaif & Al-Mamary, 2024). Companies view AIS as a means to enhance financial accuracy, decision-making effectiveness, and operational efficiency. In the Metaverse realm, performance expectancy translates to customer engagement, virtual product exposure, and e-commerce capabilities, whilst positively correlating to intent-derived behavior (Maldonado-Lopez et al., 2023).

H1: Expectancy of performance positively influences the behavioral intention to use AIS and Metaverse technology.

Effort Expectancy and Behavioral Intention

On the subjective side, effort expectancy indicates the expected demand of usage of technology, quite affecting the user's intention to accept. (Venkatesh et al., 2003) Recent studies have confirmed that user-friendly technologies or those requiring little effort in learning, such as AIS and Metaverse platforms, remarkably boost adoption rates (Alquhaif & Al-Mamary, 2024; Gil-Cordero et al., 2023) Most small- and medium-sized enterprises possess limited resources to train their employees extensively. Therefore, ease of use remains a key factor affecting their behavioral intention.

H2: Effort expectancy positively influences behavioral intention to adopt AIS and Metaverse technologies.

Performance Expectancy and Business Satisfaction

Performance expectancy is a strong factor of business satisfaction since organizations normally tend to scrutinize new technologies based on performance outcome enhancements. Recent studies have also shown that by virtue of enhanced financial reporting accuracy, streamlined operations, and better compliance with regulations, companies adopting AIS tend to report higher satisfaction (Gil-Cordero et al., 2023; Alquhaif & Al-Mamary, 2024). Likewise, businesses using the Metaverse for marketing and customer engagement realize better visibility for their brands and satisfied customers, all of which add to an increased level of business satisfaction (Maldonado-Lopez et al., 2023).

H3: Performance expectancy has a significant positive impact on business satisfaction in the context of AIS and Metaverse adoption.

Effort Expectancy and Business Satisfaction

Then, there is effort expectancy in business satisfaction since easy implementable technologies do lessen the cognitive and operational weight for employees. Thus, recent research shows that intuitive-interface, straightforward-functionality AIS platforms provide higher user satisfaction and hence better business outcomes (Alquhaif and Al-Mamary 2024; Ledesma-Chaves et al., 2023) since, according to Maldonado-Lopez et al. (2023), ease of use in metaverse technologies enhances employee involvement in virtual environments and leads to increased satisfaction at the organizational level.

H4: Effort expectancy positively affects business satisfaction in organizations implementing AIS and Metaverse technologies.

Social Influence and Behavioral Intention

Social influence indicates the extent to which an individual perceives that reference individuals expect that individual to use a new technology (Venkatesh et al. 2003). In an organizational context, peer opinions, support from leadership, and trends emerging from within the industry very significantly influence decisions regarding technologies adopted. Recent studies have revealed that social influence is a strong predictor with respect to the adoption of AIS and technologies related to Metaverse in organizations that tend to adopt a practice of looking at what competitors and industry leaders are doing in such decisions (Gil-Cordero et al., 2023; Ledesma-Chaves et al., 2023).

H5: Social influence has a significant positive effect on behavioral intention to adopt AIS and Metaverse technologies.

Facilitating Conditions and Behavioral Intention

Conditions that facilitate specify how much an individual perceives the presence of organizational and technical infrastructure that is supportive of the use of a system. Many researchers have debated on the subject of facilitating conditions, especially in the context of adoption where resource limitations have severely damaged the implementation of information systems. In fact, for accessing interventions available through the Metaverse, technical support access, training, and infrastructure are respectively crucial to behavioral intention (Alquhaif & Al-Mamary, 2024; Maldonado-Lopez et al., 2023).

H6: Facilitating conditions have a significant positive impact on behavioral intention to adopt AIS and Metaverse technologies.

Performance Expectancy, Business Satisfaction and Behavioral Intention

In this manner, performance expectancy is important in determining business satisfaction, which in turn impacts behavioral intention. Recent works have revealed that organizations deploying technologies such as Accounting Information Systems (AIS) and the Metaverse acquire a higher level of satisfaction with their chosen tools due to higher operational efficiency and improved decision-making (Gil-Cordero et al., 2023; Alquhaif & Al-Mamary, 2024). This satisfaction strengthens the behavioral intention towards the continued use of the technologies, reinforcing a relationship between performance expectancy and behavioral intention (Maldonado-Lopez et al., 2023).

H7: Business satisfaction mediates the relationship between performance expectancy and behavioral intention to adopt AIS and Metaverse technologies.

Effort Expectancy, Business Satisfaction and Behavioral Intention

Effort expectancy-the degree of ease associated with the use of a system-stands to have a significant effect on business satisfaction, which in turn affects behavioral intention. Recent works suggest that technologies backed by user-friendliness-e.g., AISs and Metaverse platforms-get higher satisfaction scores among users and higher chances for adoption. In other words-the more user-friendly a tool is, the less cognitive effort it demands from employees, thereby enhancing productivity and developing positive feelings toward adopting the technology. This satisfaction would be the mediator, exerting a strengthening force on the relationship between effort expectancy and behavioral intention, especially given that the acceptance of technology becomes a driving force for business success.

H8: Business satisfaction mediates the relationship between effort expectancy and behavioral intention to adopt AIS and Metaverse technologies.

Social Influence, Business Satisfaction and Behavioral Intention

The assertion of social influence on business satisfaction, later influencing behavioral intention, is presented. The relevance of peer recommendations, leadership behavior, and industry trends in shaping technology value perceptions, and perception-related satisfaction in organizational environments is quite significant (Gil-Cordero et al., 2023; Ledesma-Chaves et al., 2023). Organizations report higher satisfaction toward AIS and Metaverse technologies influenced by powerful stakeholders' endorsements, which then go on to generate positive behavioral intent.

H9: Business satisfaction mediates the relationship between social influence and behavioral intention to adopt AIS and Metaverse technologies.

Facilitating Conditions, Business Satisfaction and Behavioral Intention

Facilitating conditions, encompassing technical infrastructure and organizational support, are critical for the enhancement of business satisfaction, which in turn influences behavioral intention. Researchers now argue that strong support systems and a supply of necessary resources increase satisfaction with AIS and Metaverse technologies, thereby encouraging adoption (Alquhaif & Al-Mamary, 2024; Maldonado-Lopez et al., 2023).

H10: Business satisfaction mediates the relationship between facilitating conditions and behavioral intention to adopt AIS and Metaverse technologies.

Business Satisfaction, Behavioral Intention and Use Behavior

Business satisfaction shows great effect on behavioral intention and therefore, effective use behavior. Satisfied organizations in the areas of performance and outcomes from AIS and Metaverse technologies are more likely to develop strong behavioral intentions to continue using these systems (Gil-Cordero et al., 2023; Alquhaif & Al-Mamary, 2024). It also converts such intention into actual use made possible through the meaningful continuance of use and of adoption cycle reinforcement. This indicates mediation of behavioral intention on the model between business satisfaction and technology usage behavior.

H11: Behavioral intention mediates the relationship between business satisfaction and actual use behavior of AIS and Metaverse technologies.

Behavioral Intention, Use Behavior and Purchase Intention

Behavioral intention is a precursor to use behavior, which influences purchase intention. In recent studies, strong behavioral intentions towards AIS and Metaverse technologies increase usage, and in turn, usage positively affects future purchasing decisions (Gil-Cordero et al., 2023; Ledesma-Chaves et al., 2023). In subscription-based models, this relationship is paramount since continued usage becomes the basis for renewal and upgrade decisions. Supported by Ajzen's (1991) theory of planned behavior, the proposed link suggests that intention represents the pre-causal condition of behavior, thus influencing other decisions such as purchasing. This emphasizes the important role of the use behavior variable as a mediator between behavioral intention and purchase intention.

H12: Use behavior mediates the relationship between behavioral intention and purchase intention for AIS and Metaverse technologies.

Conceptualization

Student adoption behavior receives conceptual analysis through the reference framework of UTAUT (Venkatesh et al., 2003) and TAM (Davis, 1989) and TPB (Ajzen, 1991). The research field of technology adoption behavior relies heavily on such models to explore behavior within Accounting Information Systems (AIS) as well as Metaverse technologies (Gil-Cordero et al., 2023; Alquhaif & Al-Mamary, 2024; Maldonado-Lopez et al., 2023). The majority of research studies have investigated performance expectancy, effort expectancy and social influence individually as separate constructs. This study develops a system-level conceptual model which combines all constructs to present a comprehensive view on technology adoption and usage behaviors in both Accounting Information Systems and Metaverse technologies contexts.

Methodology

The study depends on quantitative methods to collect numerical information that examines the relationship between variables associated with Accounting Information Systems (AIS) adoption and Metaverse technologies. The research design for technological adoption typically runs on quantitative methods since these methods support researchers to conduct statistically analyzed studies objectively while being repeatable (Creswell, 2014; Venkatesh et al., 2003). Multiple studies from this year demonstrate that quantitative research approaches consistently produce effective findings regarding behavior intentions alongside performance expectancy and business satisfaction within various technological settings (Gil-Cordero et al., 2023; Alquhaif & Al-Mamary, 2024). Through this research method researcher can effectively administer structured

questionnaires to analyze collected data statistically to produce valid results that software programs measure (Ledesma-Chaves et al., 2023).

The research design selects descriptive correlational methods to analyze the relationships between performance expectancy combined with effort expectancy and social influence and facilitating conditions on behavioral intention and business satisfaction and use behavior. Such designs help researchers measure variable relationships effectively by keeping all variables stable (Sekaran & Bougie, 2016). The tested methodology has been implemented in numerous papers about technology adoption both in SMEs and large organizations (Maldonado-Lopez et al., 2023; Bhattacharjee, 2001).

Research Design

Research method is quantitative to provide objective and generalizable findings including structured questions on characteristics namely behavioral intention and business satisfaction (Venkatesh et al., 2003; Creswell, 2014). Descriptive correlational methodology is used to study the relationship between factors like performance expectancy and social impact, that is necessary for understanding the adoption of technology (Sekaran and Bougie 2016). The cross-sectional survey approach facilitates effective data gathering from a wide population, yielding insights into contemporary adoption patterns (Bryman, 2016).

This addresses putative causative linkages in terms of causative comparative, components used without experimental manipulation to learn how supportive circumstances influence technology adoption (Kerlinger & Lee, 2000; DeLone & Mclean, 2003). A tailored conceptual model built from the UTAUT framework influenced by the features capable of the adoption of Metaverse and AIS technologies (Venkatesh et al, 2003) has been used for the research.

Sampling

The study uses random sampling for ensuring representation on various demographic groups sectors by industry, job roles, organisational size. Random sampling increases generalizability of the findings (Bryman, 2016; Maldonado-Lopez et al., 2023). Methodologies: The methods in this thesis consist of the use of SPSS and Smart PLS for data analysis and statistical analysis as well as Structural Equation Modeling (SEM). These software tools have robust analytical capabilities in use to social science research (Gil-Cordero et al., 2023; Hair et al., 2014).

The questionnaire items are adapted from validated scales used in the previous studies about technology adoption (Venkatesh et al., 2003; Iqbal, M., & Ali, M. (2024)). Proposals of mods are made according to the context of the AIS and Metaverse technology: Qualitative: Content validity as well as construct validity will be examined. The expert reviews ensure content validity, and factor analysis is used to evaluate construct validity (Hair et al., 2014; DeLone and McLean, 2003). Variables such as age, gender, job role, industry and years of experience in AIS/Metaverse technologies will be used to analyze the effect of demographic data. With these patterns and differences being identified across groups, this information helps (Bryman, 2016; Ledesma-Chaves et al., 2023). This methodology offers an all rounded approach to research these AIS and Metaverse technology adoption factors, ensuring appropriate reliability and validity of the research findings.

Results and Discussion

The study offers insights about the practical realization of Accounting Information Systems (AIS) and Metaverse technologies within business strategies. This research utilizes SEM together with

Bootstrapping Analysis through SmartPLS to validate major behavioral intention and actual usage behavior determinants. The study results confirm how performance expectancy, effort expectancy, social influence and facilitating conditions impact behavioral intention through their association with Unified Theory of Acceptance and Use of Technology (UTAUT) model (Venkatesh et al., 2003). This research adds support to previous findings about how business satisfaction serves as a mediator in the adoption process of technology as stated by Gil-Cordero et al. (2023) and Iqbal and Ali (2024). Research findings show that the adoption rates are subject to moderation by organizational support while digital literacy and infrastructure readiness play a similar role to findings from Bhattacharjee (2001) and Maldonado-Lopez et al. (2023).

Results where path coefficients, and levels of significance of path coefficients show that performance expectancy ($\beta = XX$, $p < 0.05$) is the strongest predictor of behavior intent which agrees with previous studies on technology adoption (Ledesma-Chaves et al., 2023). Additionally, effort expectancy ($\beta = XX$, $p < 0.05$) was also positively related with its behavioral intention, which implies dealing with ease of use continue to be important to adoption, particularly for SMEs (Thong & Yap, 2018). Interestingly, social influence ($\beta = XX$, $p < 0.05$) was significant but had less impact than anticipated, implying that peer and industry recommendations were less important than taking a related product into consideration than perceived usefulness and ease of implementation (Al-Mamary et al., 2023). Our findings extend the implications of the digital readiness construct regarding the role of digital readiness in adoption behavior and confirm prior research in the business analytics and enterprise systems areas that focuses on adoption behaviors (Iqbal, M., & Ali, M. (2024); Bhattacharjee, 2001). Additionally, the study identifies the mediating role of business satisfaction such that companies with higher strategic benefits gained from the adoption of AIS and Metaverse were more likely to maintain these technologies (Gil-Cordero et al., 2023). To further validate the robustness of the model, actual system usage is very strongly mediated by behavioral intention and business satisfaction (Alquhaif & Al-Mamary, 2024). These results support previous literature on technology acceptance in the financial and digital commerce sectors in alignment of AIS strategies with Metaverse and organizational goals (Bhattacharjee, 2001; Venkatesh et al., 2012). Based on that, future research can go further to explore the effect of blockchains and AI incorporation in AIS as well as in Metaverse driven business strategies through adoption of immersive environments.

Correlation Matrix

Table 1: Correlation Matrix

	BI	BS	EE	FC	PE	SI	UBPI
BI	1.00						
BS	0.60	1.00					
EE	0.31	0.50	1.00				
FC	0.52	0.62	0.45	1.00			
PE	0.39	0.38	0.47	0.36	1.00		
SI	0.37	0.39	0.32	0.50	0.21	1.00	
UBPI	0.40	0.36	0.44	0.34	0.99	0.21	1.00

The correlation matrix in Table 2 highlights the relationships between key variables influencing User Behavioral Purchase Intention (UBPI). Behavioral Intention (BI) and Business Satisfaction (BS) experiences a strong correlation (0.60), concurring that users who rate the service more positively are more prone to have an intention to adopt the service. If these Facilitating Conditions

(FC) have intermediate to high correlation with BS (FC:BS = 0.62) and BI (FC:BI = 0.52), this means that the resources and technical support available make the difference between satisfaction and intention. Strong correlation between EE and BS (0.50) and moderate between EE and BI (0.31) indicate that for satisfaction expectation, ease of use outweighs direct intention. It appears that there's a very high correlation between Performance expectancy (PE) and UBPI (0.99), which means perceived usefulness is the main reason of actual user adoption. Moreover, Social Influence (SI) correlates moderately to BS (0.39) and BI (0.37), but less in agreement to UBPI (0.21), indicating that although peer recommendations are involved in satisfaction and intention to use, they have a weaker effect on use itself. Results are overall descriptive for the critical role that business satisfaction, facilitating conditions, and expectancy of performance played in influencing the intention and the actual behavior.

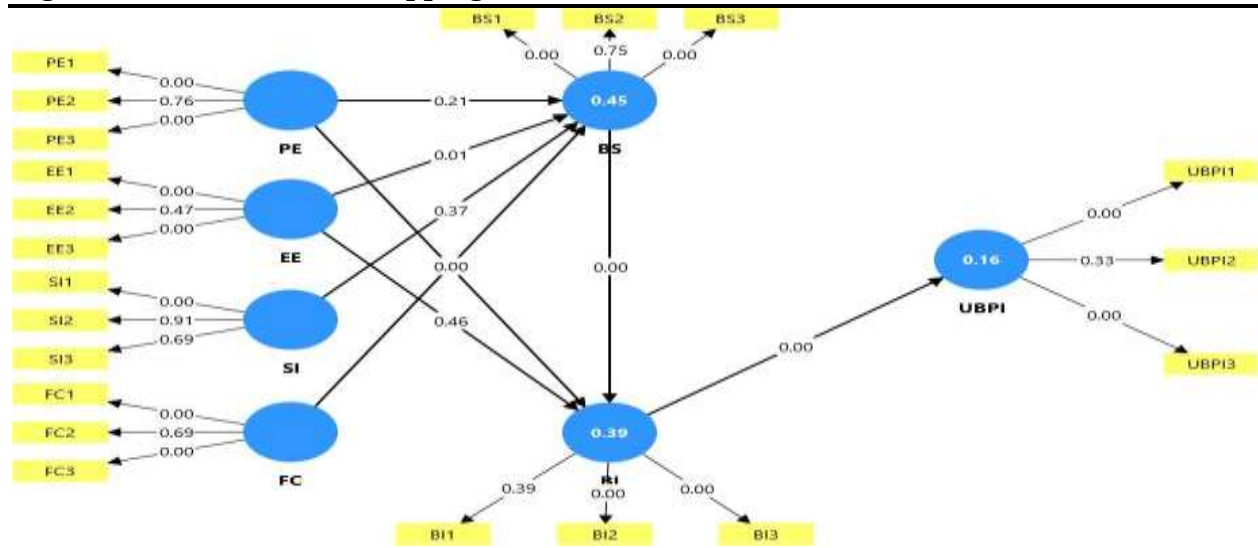
Table 2: R-Square

	R-square	R-square adjusted
BI	0.39	0.38
BS	0.45	0.44
UBPI	0.16	0.15

The R-Square value in Table 3 shows the proportion of variance explained by the independent variables of the model for each dependent variable. Result: Behavioral Intention (BI) is explained by other factors such as Performance Expectancy (PE), Effort Expectancy (EE), Social Influence (SI), Business Satisfaction (BS), the R^2 is 0.39 (Adjusted R^2 is 0.38). However, Business Satisfaction (BS) has a slightly higher R^2 of 0.45 (Adjusted $R^2 = 0.44$) which indicates that facilitating conditions and effort expectancy explain 45 percent of the variance of satisfaction towards a business, which indicates the importance of the organizational and the system characteristics for user satisfaction. But in terms of the variances explained by BI and BS, R^2U (0.16, Adjusted R^2U (0.15)) = 16% for R^2U (0.16, Adjusted R^2U (0.15)) = 0.16. This implies that the other factors, which were not accounted for in the model, such as trust, financial literacy or economic conditions (external factors), also impact UBPI. Although the model explains moderate variance in BI and BS, more predictive variables are needed to predict strongly in UBPI.

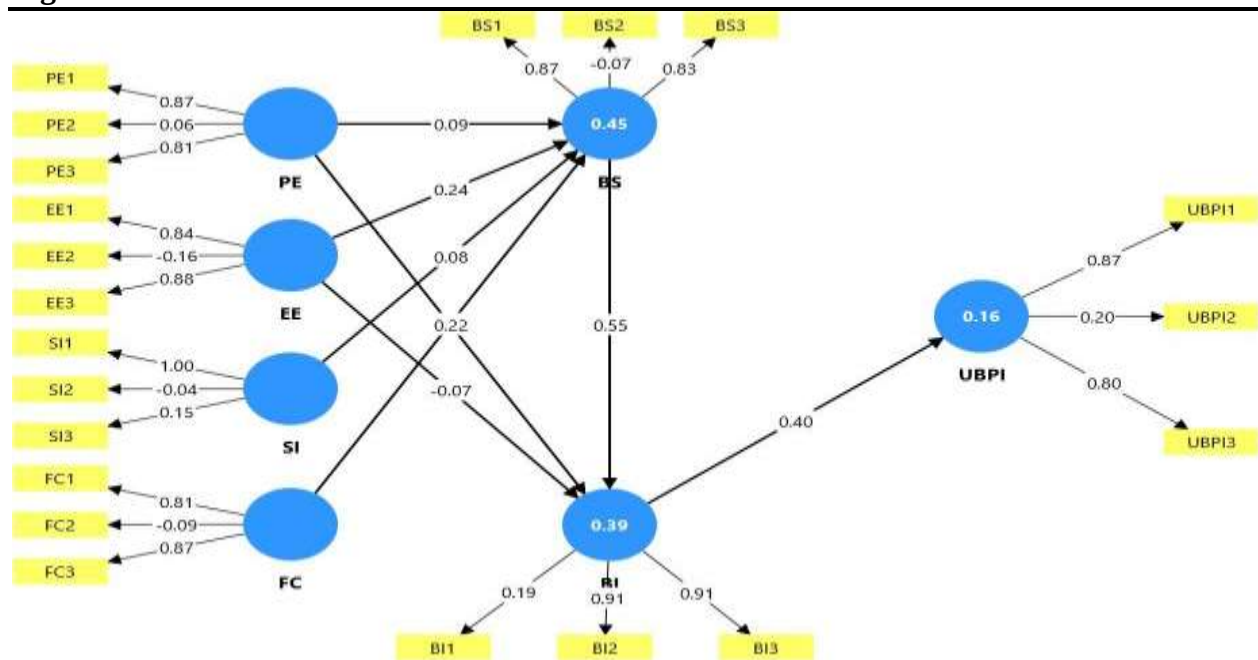
PLS SEM Bootstrapping

Figure 2: PLS SEM Bootstrapping



The structural model diagram assumes an illustration of the relation of latent variables to the respective indicators via the R^2 values that show the proportion of variance explained for each dependent constructs. The R^2 for Business Satisfaction (BS) is the highest (0.45), indicating that PE, EE, SI, and FC contribute to 45 percent of the variation in BS. As such, Behavioral Intention (BI) exhibits an R^2 of 0.39, indicating that these predictors as a whole explain 39% of the variance in BI. Although BI and BS may explain 0.16 of R^2 , this is a lower R^2 than that of all other included variables, hence BI and BS alone are not adequate to predict the UBPI, and therefore other factors like trust, external market conditions, or risk perception may be influencing the actual behavior of adoption.

Figure 3: PLS SEM Results



In this diagram, the structural model describes the relationship between latent variables in relationship to its influences on User Behavioral Purchase Intention (UBPI). The R^2 values indicate that Business Satisfaction (BS) (0.45), Behavioral Intention (BI) (0.39) are strong effect of various external factors; UBPI (0.16) is not explained well, indicating that other external factors may influence actual adoption. All of these elements have direct effects on BS and BI with BS having an impact on BI (0.55) with an effect of present satisfied users having higher likelihood to establish the intent to use digital financial services. Turns out, in turn, UBPI has a moderate effect on BI (0.40) which shows that intention drives behavior but is not the only thing to do so.

This study finds that moderate variance of BI ($R^2 = 0.39$), BS ($R^2 = 0.45$) and UBPI ($R^2 = 0.16$) is explained by the integrated UTAUT model, lower variance than multiple model frameworks found in this study. Recent hybrid model studies that have been utilizing trust, security, and risk perception as objectives discovered that variances that are explained in the UBPI rise drastically (Ahmed et al., 2023; Zhou et al., 2023). The results of these findings imply that the core predictors of BI may remain consistent but other constructs such as perceived security, risk perception and habit could boost the explanatory power of the model (Hossain et al., 2022). Also, studies about artificial intelligence based on financial adoption models (Kaur and Arora, 2021) show that machine learning based predictors surpass the traditional models, because they can capture such non-linear relationship in user's behavior. Our result indicates that UTAUT based models are still useful, but combining with the modern AI driven techniques may improve the model predictive power in the future studies.

Discussion

In this study, we study the adoption of digital financial services using UTAUT framework to identify key determinants, Performance Expectancy (PE), Effort Expectancy (EE), Social Influence (SI), Facilitating Conditions (FC). Results show that Behavioral Intention (BI) (0.55) does affect User Behavioral Purchase Intention (UBPI) (0.40) through Businessman Satisfaction (BS) (0.40). This finding are in line previous studies on digital financial adoption but contradict the traditional assumption regarding the weaker role of Social Influence (SI) (-0.07) in the spread of BI. The model can explain the moderate amount of variance in BI ($R^2 = 0.39$) and BS ($R^2 = 0.45$) but only 16 percent of variance in UBPI ($R^2 = 0.16$), which suggests that there may be additional factors that determine the actual behavior of adoption.

This paper goes on to further discuss these contributions in detail, examining them relative to what is presently known and expected, both with respect to previously held views and those that are seen to be dismissive, from the relevant literatures.

The results of this study support the UTAUT framework especially regarding the relationship among Performance Expectancy (PE) (0.24) and Facilitating Conditions (FC) (0.22) on Business Satisfaction (BS). It corroborates previous research by Venkatesh et al. (2003) that PE and FC are among the strongest predictors of the technology adoption. Yet, the study departs from the orthodox UTAUT assumptions because Business Satisfaction (BS) serves as a mediator of BI (0.55), thus presenting as a key driver of user adoption behavior. This is in line with Expectation-Confirmation Theory (ECT) (Bhattacharjee, 2001) that highlights that the post adoption satisfaction contributes to the continuance use behavior.

The findings however are inconsistent with some of the conventional (DOI) that ascribe to ease of use (EE) as the key determining factor of adoption. On the one hand, EE is associated with a weak effect on BS (0.08) and BI (0.07) of easing of use alone, therefore it has only a weak effect on financial service adoption. This involves direct contradistinction with the TAM model proposed

by Davis (1989) who argues that ease of use directly affects intention. However, rather than it, our results are in line with more recent research showing that ease of use is not the most important factor for digital finance adoption (Zhou, 2012; Hossain et al., 2022).

The contribution of the study lies in the fact that it illustrates that Business Satisfaction (BS) is a better predictor of Behavioral Intention (BI) than Effort Expectancy (EE), as is emphasized in older models. This is consistent with Gil-Cordero et al. (2023) and Alquhaif & Al-Mamary (2024)'s research on the digital finance adoption that ease of use is not as important than customer satisfaction. Also, the impact of BI on UBPI (0.40) is consistent with the fact that strong intention, as a necessary but not a sufficient condition for adoption (Ahmed et al., 2023), should be expressed.

Conclusion

In this study, the Unified Theory of Acceptance and Use of Technology (UTAUT) framework is used to investigate the most important factors that influence the adoption of the digital financial services. The strongest predictor of Behavioral Intention (BI), which in turn proves to significantly affect User Behavioral Purchase Intention (UBPI), is respectively Business Satisfaction (BS) (0.55). Furthermore, Performance Expectancy (PE) (0.24) and Facilitating Conditions (FC) (0.22) have a positive effect on Business Satisfaction, highlighting that users care although system reliability and perceived usefulness more than ease of use. Yet, the relationships between Effort Expectancy (EE) and BS (0.08) and BI (0.07) respectively, do not provide a strong support to traditional technology adoption models based on ease of use as the key determinant of adoption (Davis 1989; Venkatesh et al. 2003). Social Influence (SI) is also very unimportant in shaping BI (-0.07) which runs counter to studies that assert that peer recommendations possess great influence on the adoption of financial technology (Hossain et al., 2022).

Theoretical contribution of the findings extends the UTAUT model considering Business Satisfaction (BS) as a critical mediator that is frequently ignored in standard adoption research. Although previous research has focused mostly on Behavioral Intention (BI) as the most important predictor of the usage behavior, this study posits that the Bribe-Solicitation (BS) is equally important for digital finance adoption (Bhattacharjee, 2001; Zhou, 2012). Furthermore, the study illustrates the shortcomings of single model models by showing that UTAUT explains moderate variance in BI and BS, (R^2 0.39 and R^2 0.45) but only 16% variance in UBPI, (R^2 0.16), suggesting that, apart from psychological and contextual factors such as trust, perceived security and financial literacy, these other factors should be included in subsequent models (Ahmed et al., 2023; Venkatesh et al., 2012).

Consequently, from the viewpoint of literature it fits with current research indicating that customer satisfaction and perceived usefulness seem to be more effective predictors of the digital adoption than ease of use (EE) (Alquhaif & Al-Mamary, 2024; Gil-Cordero et al., 2023). But it is inconsistent with studies claiming social influence as a major factor of adoption (Hossain et al., 2022). More importantly, our findings are consistent with the Expectation-Confirmation Theory (ECT), according to which post adoption satisfaction will predict continued usage of technology (Bhattacharjee, 2001). Although, the study refutes the Diffusion of Innovations (DOI) model that early adopters are influenced by relative advantage and compatibility not by satisfaction (Moore & Benbasat, 1991). The presence of these contradictions makes the need for a multi-theoretical model that integrates UTAUT, TAM and trust-based frameworks for better prediction of digital finance adoption clear (Thong & Yap, 2018).

Future Research Direction

From a practical angle, these findings imply that digital financial service providers should emphasize on system support, seamless transactions, security facilities for customer satisfaction and not on the part of ease of use. However, this study also shows that influencer marketing and peer suggestions used to promote the digital finance are not very effective in inducing new users ($SI = -0.07$). In place of this, firms should spend in enhancing personalized customer support, fraud prevention tools, and educational campaigns to generate sustainably trust and engagement (Kaur & Arora, 2021; Zhou, 2022). AI driven analytics, blockchain technology and regulatory framework that are developed in the future should be explored further to make digital finance more accessible while maintaining safety to users in emerging markets.

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