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Digital Financial Literacy and Adoption of Digital Financial Services: Evidence from Kathmandu Valley

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Abstract

Background: The growth of digital technologies has increased the use of digital financial services such as mobile banking and online payments in Kathmandu Valley. However, effective use of these services depends on individuals' digital financial literacy. Limited awareness of digital financial products, risks, and consumer rights highlights the need to understand factors influencing digital financial literacy and service usage.

Purpose: The purpose of the study is to analyze the factors affecting digital financial literacy and usage of digital financial services among individuals within Kathmandu valley. Despite the increasing popularity of digital financial transactions in the Kathmandu valley, there is little research on how individual usage of digital financial services is impacted by digital financial literacy.

Design/methodology /approach: Explanatory research design is used in this study. 420 respondents were selected through non-probability convince sampling technique. Partial least square structural equation modeling was used to analyze the data. The main theory used in this study is UTAUT to show dependent and independent variables relations. To examine the data both descriptive and inferential statistics were used. Self-administered questionnaires are used to ask opinion of respondents. Kobo toolbox is used for data collection.

Findings: In the study, more respondents are married than unmarried participators with tertiary education that used digital financial products and services in the Kathmandu valley participated. The biggest problem identified by respondents was the cost of digital financial services, which needs to be adjusted, and the need for consumer education.

Conclusion: This study shows that people's comprehension of consumer rights in digital financial transactions, awareness of digital financial risks and how to manage them, and familiarity with digital financial products and services all play significant roles in encouraging financial well-being and decision-making. To improve people's digital financial literacy, the report underlines the necessity for specialized educational programs, expanded awareness campaigns, and efficient consumer protection laws.

Keywords: Digital financial literacy, financial services, consumer rights, financial risks

1. Introduction

Financial literacy has long been recognized as a fundamental capability enabling individuals to make informed judgments and effective decisions regarding the management and use of financial resources (Nogueira et al., 2025; Quarshie et al., 2025). With the rapid digitalization of financial systems, this concept has expanded into digital financial literacy (DFL), which refers to individuals' knowledge, skills, and confidence in using digital financial services such as online banking, electronic payments, mobile wallets, and ecommerce platforms (Prasad et al., 2018). The growing integration of digital technologies into financial services commonly referred to as financial technology (fintech) has fundamentally transformed how individuals save, spend, transfer, and manage money (Setiawan et al., 2020; Aalam et al., 2025). The proliferation of internet access and digital platforms has enabled financial transactions to be conducted anytime and anywhere, reshaping consumer financial behavior across the globe (Nedungadi et al., 2018). Advancements in digital technologies and ecommerce have significantly altered spending patterns, saving behavior, and transaction volumes, increasing both the speed and frequency of financial interactions (Klapper & Lusardi, 2019). Beyond retail trade, digital financial services encompass a broad range of activities including loans, mortgages, peertopeer lending, payment instruments, and online comparison of financial products and services (Setiawan et al., 2020). As a result, financial decision-making has become increasingly complex, requiring higher levels of literacy to navigate digital financial environments safely and effectively.

Scholars and practitioners widely agree that financial literacy plays a crucial role in enhancing financial inclusion and long-term financial wellbeing (Lyons & KassHanna, 2021). Prior research has primarily focused on identifying individuals' readiness levels and designing effective financial education interventions. However, with the evolution of digital banking, mobile payments, and fintech applications, traditional financial literacy alone is no longer sufficient. Digital financial literacy has emerged as a critical determinant of individuals' ability to use digital financial services responsibly and to manage financial risks associated with online transactions (Risal, 2021). Following the global technological revolution, the banking sector's shift toward digital platforms accelerated, and financial behavior research increasingly adopted an interdisciplinary perspective incorporating technology, economics, and behavioral finance (Ingale, 2020).

Digital financial literacy is particularly important in understanding saving and spending behavior in a digital economy (Abdallah et al.,2025). Digital payment systems facilitate online transfers and cardbased transactions through pointofsale (POS) devices, making financial activities more convenient and accessible. Evidence suggests that digital payments have grown substantially due to the rapid expansion of ecommerce platforms and electronic payment infrastructures (Panos & Wilson, 2020). Nevertheless, despite this growth, many consumers remain reluctant to adopt digital payment systems, preferring cash and traditional payment methods due to perceived convenience, habit persistence, and concerns related to security, privacy, and uncertainty. Even among younger populations who are technologically adept, resistance to digital payments persists, indicating that access to technology alone does not guarantee adoption. Empirical studies demonstrate that inadequate financial literacy is associated with excessive spending, insufficient saving, and poor longterm financial outcomes (Risal, 2021). Conversely, financial digitization has been shown to promote financial inclusion and facilitate saving and spending through online platforms (Callahan & Moon, 2007). It is therefore anticipated that higher levels of digital financial literacy lead to improved financial behavior by enabling individuals to better evaluate financial products, manage risks, and plan for the future. However, existing literature largely focuses on developed economies, while evidence from developing countries remains limited. Notably, Klapper and Lusardi (2019) reveal alarmingly low levels of financial literacy even in advanced economies, with substantial disparities across age, gender, and education, underscoring the global relevance of the issue.

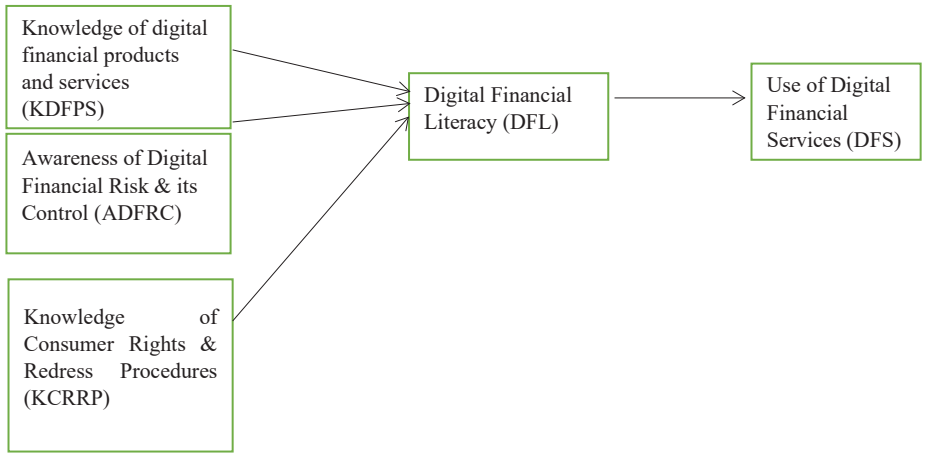
In the context of Nepal, despite the expansion of banking and financial institutions, financial literacy remains low, particularly in rural and semiurban areas, where access to financial services and knowledge is limited (Chaulagain, 2015). Financial services are predominantly concentrated in urban centers such as Kathmandu Valley, and many individuals rely on basic banking functions or informal financial sources due to limited awareness, lack of trust, and insufficient digital skills (Risal, 2021). Although digital financial services and payment systems have gained momentum in recent years, the adoption and effective use of these services depend heavily on individuals' digital financial literacy. Given the increasing reliance on digital financial services and their potential influence on saving and spending behavior, examining digital financial literacy within the Nepalese context is both timely and necessary. Despite its importance, empirical research investigating the relationship between digital financial literacy and the use of digital financial services particularly at the individual level in Kathmandu Valley remains scarce. This study addresses this gap by analyzing digital financial literacy and the use of digital financial services among individuals in Kathmandu Valley, contributing to the emerging literature on digital finance, financial behavior, and financial inclusion in developing economies.

2. Theoretical Framework and Conceptual Framework

A theoretical framework is a set of ideas and premises that a researcher develops to support a study (Devkota et al., 2023). It is logically formed and interrelated and is based on one or more theories. The researcher must define any concepts and theories that will serve as the foundation for the investigation, connect them through logical reasoning, and tie these notions to the actual study being conducted to develop a theoretical framework. A theoretical framework, in essence, reflects the work that a researcher does to apply a theory to a particular subject. (Varpio et al., 2020). However, all too often, these words are used interchangeably or without a clear understanding of the differences between these concepts. Further problematizing this situation is the fact that theory, theoretical framework, and conceptual framework are terms that are used in different ways in different research approaches. In this article, the authors set out to clarify the meaning of these terms and to describe how they are used in 2 approaches to research commonly used in HPE: the objectivist deductive approach (from theory to data. For this study different theory has been explained such as theory of planned behavior (Ajzen, 1991), theory of reasoned action, unified theory of acceptance and use of technology, technology acceptance model, social cognitive theory etc. According to the theory of planned behavior, human behavior is influenced by three types of considerations: behavioral beliefs, normative beliefs, and beliefs about the presence of factors that may facilitate or impede performance of the behavior and the perceived power of these facts. Behavior beliefs are beliefs about the likely outcomes of the behavior and evaluations of these outcomes (Ghany et al., 2009).

According to the theory of reasoned action, a person's attitude toward making purchases and their subjective norms serve as the drivers of their actual behavior. Despite an earlier conceptual argument that led to an interaction as well as direct impacts, the two antecedents (attitude and subjective norm) influence the buying behavior in a way that is additive (Lyong ha, 1998). The UTAUT model includes three indirect technology usage determinants: effort expectancy, performance expectancy, and social influence as well as two direct usage behavior factors (intention and facilitating conditions) (Dulle & Majanja, 2011). TAM predicts personal technology adoption and use. TAM provided a detailed explanation of the factors influencing computer acceptance that are widespread and able to account for user behavior across a wide range of end-user computing systems and user populations. TAM divides the TRA's attitude construct into two constructs to better understand computer usage behavior: perceived usefulness (PU) and perceived ease of use (EU) (Rauniar et al., 2014).

Figure 1: Conceptual Framework



Source : Setiawan et al. (2020)

Knowledge of digital financial products and services, Digital Financial Literacy

Knowledge of Digital Financial Products and Services refers to the awareness of users regarding digital financial products and services (CHEN, 1998).It is critical to comprehend how knowledge of digital financial products and services affect the level of digital financial literacy among people. Digital financial literacy is where everything goes digital. Knowledge of online shopping, online payments via various methods, and online banking systems are all closely related to digital financial literacy (Prasad et al., 2018) When it comes to the usage and administration of money, it is the capacity to reach wise decisions. Digital financial literacy is where everything goes digital. Knowledge of online shopping, online payments (Prasad et al., 2018). Having knowledge of the financial services and products that are available (payments, deposits and savings, credit, risk management and insurance, investments), as well as knowledge of healthy financial attitudes and practices (budgeting, saving, borrowing responsibly, planning for emergencies, and retirement)(Lyons & Kass-Hanna, 2021).

H1: There is significant relationship between knowledge of digital financial products & services and digital financial literacy.

Awareness of Digital Financial Risk & its Control and Digital Financial Literacy

People and businesses should be aware of the additional risks they may face when using DFS, which are more varied yet occasionally more difficult to identify than those related to conventional financial goods and services. Users of DFS should be mindful of the dangers of online fraud and computer security(Morgan et al., 2019). Digital financial risks involve phishing, spyware, and pharming. These hypotheses can serve as the foundation for empirical research investigations that look at the connections between financial risk, digital literacy, and personal control behaviors. By putting these theories to the test, researchers can advance knowledge of how people's awareness, attitudes, behaviors, and control strategies around digital financial hazards are influenced by their level of financial literacy(Lyons & Kass-Hanna, 2021).

H2: There is direct relationship between awareness of digital financial risks & its control with digital financial literacy.

Knowledge of Consumer Rights & Redress Procedures, Digital financial Literacy

In the context of digital financial literacy, the term "consumer rights" refers to the rights and safeguards that consumers have when utilizing digital financial services and conducting digital financial transactions. These rights are intended to protect customers' right to fairness, openness, and security in their dealings with businesses online(Lyons & Kass-Hanna, 2021).

The relationship between consumer rights awareness, financial literacy, and perceptions of digital financial services can be investigated through empirical research to test theories. Researchers can advance knowledge of the function of digital financial literacy in advancing consumer rights and influencing consumer experiences in the digital financial landscape by investigating these possibilities. Higher digital financial literacy increases a person's likelihood of being aware of their rights as consumers and the various dispute resolution options that are open to them. They are more likely to make good use of these tools to handle digital financial risks, such as reporting fraudulent transactions or getting help if their accounts are accessed without authorization.

H3: There is significant relationship between Knowledge of Consumer Risks & Redress Procedures and digital financial literacy.

Digital Financial Literacy and use of Digital Financial Services

Digital financial services (DFS) are financial services which rely on digital technologies for their delivery and use by consumers.(Pazarbasioglu et al., 2020). The hypotheses offer a framework for investigating how digital financial services and digital financial literacy are related. Researchers may learn more about the elements that affect the adoption, use, and effect of digital financial services by testing these hypotheses (Morgan & Trinh, 2019). People who are financially literate in the digital age have the knowledge and abilities to use digital financial services efficiently. The adoption and use of digital financial services by individuals, such as mobile banking, online payments, and digital wallets, is anticipated to be favorably impacted by higher levels of digital financial literacy (Setiawan et al., 2020).

H4: It is hypothesized that actual use of digital financial services is strongly correlated with digital financial literacy.

Digital Financial Literacy as a Mediator

Mediation analysis is a statistical method used to investigate the mechanisms by which one variable influences another variable through a third variable, known as the mediator. Mediation analysis is often used in social and behavioral sciences to understand the underlying processes that explain how an independent variable affects a dependent variable (Hayes, 2013). There are several statistical methods for conducting mediation analysis, including the causal steps approach, the bootstrapping approach, and the structural equation modeling approach (Hayes, 2013). Digital financial literacy (DFL) acts as the mediating variable between the independent variables (Knowledge of Digital Financial Products and Services, Awareness of Digital Financial Risk & its Control, Knowledge of Consumer Rights & Redress Procedures) and the outcome variable (Digital Financial Services).

Table 1: Observed Variable and Description

Construct	Variable ID	Observed Variable	Explanation
Knowledge of digital financial products and services (KDFPS)	KDFPS_1	Online Trading	Individual knowledge about online trading of digital products and services.
	KDFPS_2	Mobile Banking	Mobile banking knowledge status of people.
	KDFPS_3	Internet Banking	Electronic payment system that enables an individual to conduct a range of digital transactions through website.
	KDFPS_4	Variety of digital financial products and services	Customer choices and ability to find out different financial products and services.
	KDFPS_5	Digital payment method	Familiar with digital payment system such as amazon pay, phone pay, and so on.

Awareness of Digital Financial risks and its Control	ADFRC_1	Various financial Risks	Individual awareness level towards various financial risks such as phishing, spyware etc.
	ADFRC_2	Protection From Financial Risks	Awareness regarding the different methods and strategies to fight against potential financial loss.
	ADFRC_3	One Time Password.	Sharing of OTP with others or not.
	ADFRC_4	Rational.	Ability to think logically and behave objectively in digital financial transactions.
	ADFRC_5	Control over Financial Activity	Mechanisms, processes, and measures put in place to manage and oversee financial operations.
	ADFRC_6	Malicious Software	Awareness of malicious software that will harm user mobile phone and pc.
Knowledge Of Consumer Rights and Redress procedures (KCRRP)	KCRRP_1	Victim of digital financial transaction	Consumer awareness in case of victim in digital financial transactions and detailed about complains procedures.
	KCRRP_2	Type of financial products and services	Customer ability to choose right type of financial products and services as per their need.
	KCRRP_3	Customers Protection	Protections and entitlements that individuals have when engaging in financial transaction conducted through digital platforms or channels
	KCRRP_4	User Rights	Designed to ensure a safe, secure, and fair experience for customers for customer in financial transactions.
Digital Financial Literacy	DFL_1	Digital Lending Method	Customer familiar with peer to peer lending, app-based lending, and supply chain finance and so on (Panos & Wilson, 2020)
	DFL_2	Self-completion of digital financial transaction.	Initiate and completion of own financial transaction by self or not.
	DFL_3	Ability to find Financial products and services	Customer's capability to find appropriate financial products that suits their financial goals.
	DFL_4	Digital Insurance	Digital platforms to enhance and streamline the insurance industry.
	DFL_5	Handling Financial Transaction	Customer's capability to handle digital financial transactions.
Digital Financial Services	DFS_1	Preference of services	Preference of digital financial services and products due to attractive rewards, cash back, incentives, offer, and other benefits.
	DFS_2	Perception of People	Individual use digital financial services because other people see their positive or not.
	DFS_3	Customized Digital Financial Products and Services	Offerings that are tailored to meet the specific needs, goals, preferences, and goals of individual customers.
	DFS_4	Digital service provider	Customers' ability to choose right digital financial service provider in market (Ingale, 2020)

3. Research Methods

This study is grounded in a post-positivist research philosophy, which assumes that an objective reality exists but acknowledges that it can only be imperfectly understood due to social influences and researcher subjectivity (Aalam et al., 2025; Devkota & Mahapatra, 2025). This philosophical stance supports the application of empirical methods such as survey instruments and quantitative analysis, while also recognizing the presence of latent and unobservable constructs within social research (Saunders et al., 2019). In addition, the study employs an explanatory research design to examine how attitude, subjective norms, and perceived behavioral control shape Gen-Z's behavioral intention toward electoral participation in Nepal. Explanatory research is particularly appropriate when the objective is to explore causal relationships and assess associations among key variables within a given phenomenon (Fisher & Ziviani, 2004; Devkota et al., 2021).

The study area is in Kathmandu valley, Province no.3, Nepal. The latitude of Kathmandu Valley lies between 27 32' 13" and 27 49' 10" north and longitudes 85 11' 31" and 85 31' 38" east and is located at a mean elevation of about 1,300 meters (4,265 feet) above the sea level (Rajbhandari et al., 2022). The primary audience for this study is individuals from Kathmandu Valley. The Kathmandu valley was chosen as the research area because most of the literate and financially educated people live here than other areas of the nation. Another important reason for selecting Kathmandu Valley is that data collection may be more convenient and cost-effective. Kathmandu Valley is Nepal's financial and commercial hub. The Kathmandu Valley is home to numerous professional and academic institutions, as well as media outlets. This could provide access to relevant information and insights.

Sampling involves selecting a subset of individuals from a larger population to obtain reliable and valid research results (American Psychological Association, 2020; Bhandari et al., 2021). As the total number of digital financial service users in Kathmandu Valley is not fixed or clearly identifiable, this study adopts a non-probability sampling technique, which is appropriate in situations where a comprehensive sampling frame is unavailable, and respondents are selected based on accessibility (Ayhan, 2011). The sample size was determined using Cochran's (2003) formula for large populations, expressed as $n_0 = (Z^2pq)/e^2$ (Maharjan et al., 2025), where Z represents the standard normal value at a 5% level of significance (1.96), p denotes the estimated population proportion (0.50), q = 1 − p (0.50), and e indicates the allowable margin of error (0.05). Substituting these values, the required sample size was calculated as $(1.96)^2 \times 0.5 \times 0.5 / (0.05)^2 = 384.16$. After adjusting for a 5% non-response rate (19.21), the final sample size was determined to be approximately 403 respondents, which is considered adequate for capturing individual perspectives on digital financial literacy in the Kathmandu Valley.

This study employed a structured questionnaire as the primary research instrument to collect primary data on individuals' perceptions and usage of digital financial products and services within the Kathmandu Valley. The questionnaire was designed to address the research objectives and included both closed-ended and limited open-ended questions, allowing for quantifiable measurement as well as contextual clarification. Following its development, the questionnaire was digitized and administered using the KOBO Toolbox, which facilitated efficient, accurate, and secure data collection. Prior to the main survey, a pilot study was conducted to assess the clarity, reliability, and consistency of the instrument, ensuring that it adequately captured the constructs under investigation.

Data analysis, both descriptive and inferential techniques were applied. Descriptive statistics such as mean and frequency were used to summarize the data, while Structural Equation Modeling (SEM) was employed for inferential analysis to examine relationships among latent variables. Data entry was carried out using Microsoft Excel, and advanced analysis was performed using KOBO Toolbox and SmartPLS, ensuring rigorous and reliable results.

4. Results

Socio Demographic Analysis

The demographic information of the respondents based on 403 individuals in the Kathmandu valley as revealed in table 2. The sample is relatively balanced by gender, with 58.31% male and 41.69% female respondents. Most respondents are married (54.05%), while 45.95% are unmarried. In terms of age, most respondents fall within the 25–35 years group (48.81%), followed by 15–25 years (27.38%) and 35–45 years (18.81%), indicating a predominantly young and economically active population. Regarding educational attainment, the largest proportion of respondents holds a bachelor's degree (40.48%), followed by +2 level education (31.43%), while 11.67% have attained a master's degree or above. Occupationally, respondents are mainly employees (37.6%) and students (34.5%), with smaller proportions of business owners (15.4%) and professionals (11.4%). Overall, the demographic distribution suggests a sample dominated by educated, working-age individuals, making it suitable for analyzing digital financial literacy and digital financial service usage.

Table 2: Demographic information of the respondent

Title	Category	Number	Percentage (%)
Gender	Male	235	58.31
	Female	168	41.69
Marital Status	Married	227	54.05
	Unmarried	193	45.95
	Others	0	0
Age	25-35 Years	205	48.81
	15-25	115	27.38
	35-45	79	18.81
	Above 45	21	5
Education Level	Bachelor Level	170	40.48
	+2 level	132	31.43
	Master and above	49	11.67
	SLC/SEE level	38	9.05
	Basic Level	23	5.48
	Illiterate	8	1.9
Occupation	Employee	158	37.6
	Student	145	34.5
	Business Owner	65	15.4
	Professionals	48	11.4
	Others	4	0.9

General Understanding about Digital Financial Literacy

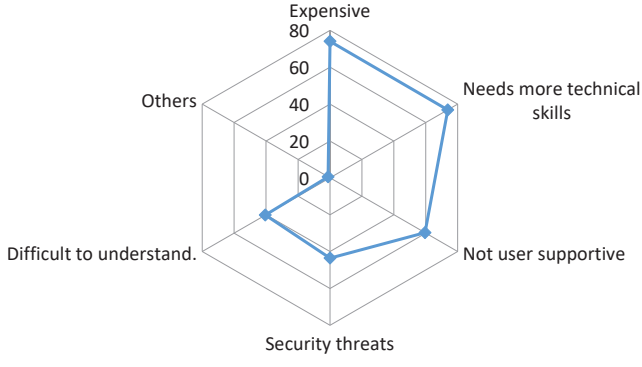
The rapid growth of cashless payment systems has enhanced convenience and accessibility, leading to increased adoption of digital financial transactions in Nepal. This trend is reflected in the survey of 420 respondents from the Kathmandu Valley who actively engage with digital financial services. Assessing individuals' understanding of digital financial transactions is essential, as such understanding shapes users' behavior, perceptions, and attitudes toward digital financial service providers (Aracil, 2019).

The findings reveal that 98.33% of respondents use at least one digital payment method, such as mobile banking, e-wallets (eSewa, FonePay), or online banking, while only 1.43% report that they are not using any digital payment system. In addition, 94.05% of respondents have practical experience with fintech-based digital payment services. Mobile banking is the most used service (76.67%), followed by e-wallets (66.43%) and online banking (48.81%). A smaller proportion of respondents use e-credit cards (25.24%) and other digital payment methods (23.81%). In terms of usage frequency, many respondents (54.52%) use digital financial products and services occasionally, while 30.48% use them frequently and 17.62% use them very frequently. Only a small share (2.14%) reported rare usage. Overall, the results suggest a high level of exposure to and engagement with digital financial services among individuals in the Kathmandu Valley.

Challenges in Adopting Digital Financial Services

The study gathered information on challenges encountered by individuals in Kathmandu valley when they are involved in digital financial transactions. According to the survey, 396 respondents i.e. (94.29%) have said there are challenges in adopting digital financial technology and remaining 5.71% of the respondents have said that there are no challenges in adopting digital financial technology. These results suggest that employing digital financial technology presents a few difficulties for people in the Kathmandu valley. The results indicate that to advance people and a country, there is a need to change how the government supports policies and successfully uses digital financial technology. 74.05% of those who responded to the survey said digital financial service is expensive for general people. 73.81% of respondents to the survey said they need more technical skills in adopting digital financial transactions. 59.52% of the respondents of the survey have said there is no user supportive digital technology in financial services. 43.57% of the respondents of the survey have said there are security threats in adopting digital financial services. 40.48% of the respondents of the survey said it is difficult to understand digital financial transactions. 1.19 % of the respondents of the survey have said there are others challenges in adopting digital financial services which include government policy is not adequate, there are social issues, there are challenges in adoption of technology at changing time. Even though governments have made large investments in digital banking technologies, the study aimed to examine the challenges associated with adoption in the Kathmandu valley. 383 i.e. respondents of the survey have said these challenges are manageable.

Figure 2: Challenges in Adopting Digital Financial Services



Inferential Analysis

Common Biased Method: To assess the presence of common method bias, a full collinearity test was conducted. The results indicate that the variance inflation factor (VIF) values for all constructs are ≤ 3.3, confirming that multicollinearity is not a concern and that the data are free from common method bias.

Measurement Model Assessment: The validity and reliability of the constructs were evaluated using the measurement model (outer model), which assesses how well the observed indicators represent their underlying latent constructs (Janadari et al., 2016). Since this study employs a reflective measurement

model, the analysis focused on internal consistency reliability, convergent validity, and discriminant validity. Internal consistency reliability was assessed to ensure that the items within each construct consistently measure the same underlying concept. This was evaluated using Cronbach's Alpha (CA) and Composite Reliability (CR). Following Taufiq-Hail et al. (2023), values above 0.70 indicate strong reliability, while values above 0.60 represent the minimum acceptable reliability. In this study, all constructs demonstrated CA and CR values above the recommended thresholds (Table 3), confirming internal consistency reliability. Convergent validity was assessed to ensure that the indicators adequately reflect their corresponding constructs. Factor loadings (FL) and Average Variance Extracted (AVE) were examined for this purpose. According to Hair et al. (2011), AVE values of 0.50 or higher indicate acceptable convergent validity (Lawaju et al., 2023), and factor loadings above 0.70 represent strong item reliability (Sarstedt et al., 2019). In the present study, all constructs achieved AVE values above 0.50, and most factor loadings were substantial, confirming that convergent validity was successfully established.

The validity and reliability of the constructs were assessed using the measurement model (outer model) to determine how well the observed indicators represent their underlying latent constructs (Janadari et al., 2016). Since this study applies to a reflective model, the analysis examined internal consistency reliability, convergent validity, and discriminant validity. Internal consistency reliability was evaluated to ensure that the items within each construct consistently measure the same underlying concept. This was done using Cronbach's Alpha (CA) and Composite Reliability (CR). According to Taufiq-Hail et al. (2023), values above 0.70 indicate strong reliability, while a minimum value above 0.60 is acceptable. In this study, all CA and CR values (see Table 3) were above the recommended thresholds, confirming that internal consistency reliability was achieved. Convergent validity was assessed to verify that the indicators sufficiently reflect their respective constructs. This was done using factor loadings (FL) and Average Variance Extracted (AVE). As per Hair et al. (2011), AVE values of 0.50 or higher indicate acceptable convergent validity, while factor loadings above 0.70 represent strong item reliability (Sarstedt et al., 2019). In this study, all constructs had AVE values above 0.50, and most factor loadings were substantial, confirming that convergent validity was achieved.

Table 3: Cronbach's Alpha (CA), Composite Reliability (CR) and Average Variance Extracted (AVE)

	Items	Loadings	CA	CR	AVE	VIF
Awareness of Digital Financial Risk & its Control	adfrc1	0.737	0.616	0.795	0.564	1.902
	adfrc5	0.76				
	adfrc6	0.756				
Digital Financial Literacy	dfl1	0.633	0.679	0.806	0.51	1.541
	dfl2	0.74				
	dfl3	0.722				
	dfl5	0.755				
Use of Digital Financial Services	dfs1	0.789	0.642	0.807	0.583	1.245
	dfs3	0.742				
	dfs4	0.758				
Knowledge of Consumer Rights & Redress Procedures	kcrrp1	0.776	0.668	0.801	0.502	1.255
	kcrrp2	0.678				
	kcrrp3	0.631				
	kcrrp4	0.741				
Knowledge of digital financial products and services	kdfps1	0.74	0.684	0.808	0.513	1.681
	kdfps2	0.75				
	kdfps4	0.705				
	kdfps5	0.668				

Discriminant validity assesses the extent to which a construct is distinct from other constructs in the model, ensuring that its indicators measure only the intended latent variable (Fornell & Larcker, 1981). In this study, discriminant validity was evaluated using the Fornell-Larcker criterion, cross-loadings, and the Heterotrait-Monotrait (HTMT) ratio, following the recommendations of Henseler et al. (2015). According to the Fornell-Larcker criterion, the square root of the AVE for each construct should exceed its correlations with other constructs (Hair et al., 2020). As shown in Table 4, all constructs met this threshold, indicating that each construct shares more variance with its indicators than with other constructs. Cross-loadings further confirmed that each item loaded higher on its parent construct than on any other construct, supporting item-level discriminant validity.

The HTMT ratio provides a more stringent test of discriminant validity. Recommended thresholds are 0.85 for conceptually distinct constructs and 0.90–0.95 for constructs that are closely related (Henseler et al., 2015; Kaplani & Zafiropoulos, 2022). In this study, all HTMT values were below 0.85, and none exceeded 0.95 (Table 5), confirming that the constructs are adequately distinct. Bootstrap confidence intervals were examined for HTMT values near the upper threshold to ensure they did not include 1, further validating discriminant validity.

Overall, these findings indicate that the measurement model is valid and reliable, with each indicator uniquely capturing its respective latent construct.

Table 4: Fornell-Larcker Criterion

	Adfrc	Dfl	Dfs	kcrrp	Kdfps
Adfrc	**0.751**				
Dfl	0.613	**0.714**			
Dfs	0.54	0.625	**0.764**		
Kcrrp	0.585	0.636	0.607	**0.709**	
Kdfps	0.582	0.551	0.606	0.629	**0.716**

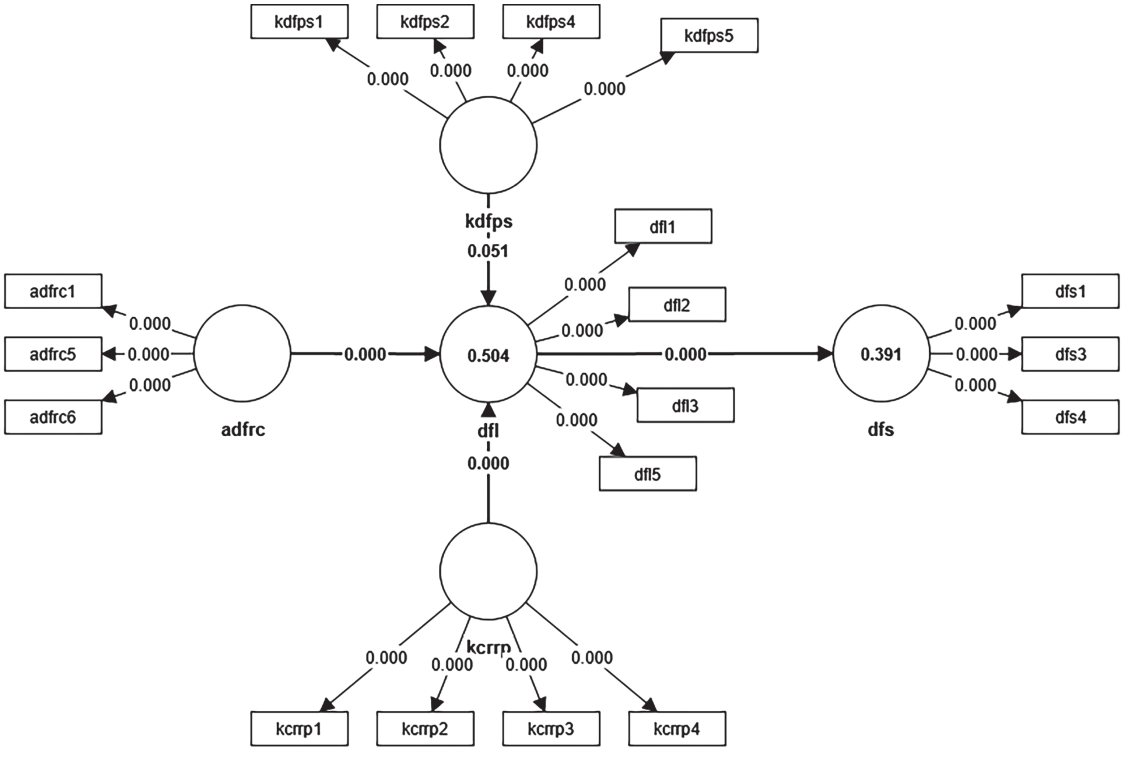
Table 5: Discriminant Validity (HTMT Matrix)

	Adfrc	Dfl	Dfs	kcrrp	Kdfps
Adfrc					
Dfl	0.946				
Dfs	0.856	0.941			
Kcrrp	0.911	0.941	0.921		
Kdfps					

Structured Model Assessment

The structural model was assessed using path analysis, which evaluates causal relationships between a dependent variable and multiple independent variables. Path analysis, a form of multiple regression, estimates parameters through structural equations to determine how well the hypothesized model fits the observed data (Westrick et al., 2020). Unlike full SEM, path analysis uses only measured variables, with no latent constructs. Although its advantages are substantial, path analysis is still underutilized in studies on digital financial literacy (Park et al., 2021). The R^2 value indicates the proportion of variance in the endogenous variable explained by the exogenous variables (Hair et al., 2018). In this study, the structural model explains 50.4% of the variance in digital financial literacy (DFL), demonstrating moderate explanatory power. Following Henseler et al. (2015), R^2 values of 0.25, 0.50, and 0.75 are interpreted as weak, moderate, and substantial, respectively. Although not extremely high, this R^2 exceeds the minimum acceptable threshold of 0.10 suggested in prior studies (Shmueli et al., 2016; Akhmedova et al., 2020) indicating that the model satisfactorily captures the key determinants of DFL among individuals in Kathmandu Valley.

Figure 3: Path Coefficient Analysis



Hypothesis Testing

Hypothesis testing was conducted to evaluate whether the data provides sufficient evidence to support the proposed assumptions, focusing on the relationships among digital financial literacy (DFL), awareness, and related factors (Mattia et al., 2019). The inner structural model was assessed using standardized path coefficients (β), t-values, p-values, and confidence intervals. A significance level of 0.05 was used, with p-values below this threshold indicating support for the hypotheses. The results show that awareness of digital financial risks and controls (Adfrc → DFL; β = 0.322, t = 6.034, p = 0.000), digital financial literacy influencing digital financial services usage (DFL → DFS; β = 0.625, t = 10.475, p = 0.000), and knowledge of consumer rights and redress procedures (KCRRP → DFL; β = 0.363, t = 5.793, p = 0.000) were statistically significant, supporting hypotheses H1, H2, and H3. However, knowledge of digital products and services (KDFPS → DFL; β = 0.136, t = 1.952, p = 0.051) was marginally non-significant, indicating a weak effect that did not meet conventional significance levels. These findings underscore the critical role of financial awareness and consumer knowledge in shaping digital financial literacy among individuals in the Kathmandu Valley and highlight areas for targeted interventions to enhance digital financial inclusion.

Table 6: Hypothesis Testing

Hypotheses	β	SD	T values	P values	LL 2.5%	UL 97.5%	Results
Adfrc>dfl	0.322	0.053	6.034	0.000	0.217	0.426	Supported
dfl>dfs	0.625	0.060	10.475	0.000	0.483	0.723	Supported
kcrrp>dfl	0.363	0.063	5.793	0.000	0.237	0.480	Supported
kdfps>dfl	0.136	0.070	1.952	0.051	-0.003	0.268	Not Supported

Additionally, latent constructs are hypothetical; since they can't be directly observed, they also can't be directly quantified thus we have to collect the indicators that relate to underlying component to evaluate latent constructs. In this study, DFS being the latent construct the relative assessment of the hierarchical nature of the DFS is calculated.

Mediation hypotheses were tested using bootstrapping of indirect effects, where significance is assessed based on p-values and whether the original sample estimates fall within the confidence interval (Kock, 2015). Mediation occurs when a mediator construct intervenes between an exogenous and an endogenous construct, such that a change in the exogenous variable induces a change in the mediator, which in turn affects the endogenous variable (Hair et al., 2020). In this study, all proposed mediation paths were supported, and according to the conceptual framework, the mediations can be classified as transformative, emphasizing the empowerment of participants to make decisions and modify relationships, in contrast to evaluative mediation, which relies on directive guidance and recommendations. Model fit was assessed using the Standardized Root Mean Square Residual (SRMR), which compares the observed covariance matrix with the model-implied covariance matrix. The SRMR values obtained were below 0.08, indicating a good fit and confirming that the mediation model adequately represents the data (Hair et al., 2019). These results suggest that the mediator constructs play a significant role in transmitting the effects of exogenous variables on digital financial literacy and related outcomes among individuals in the Kathmandu Valley.

Table 7: Mediation Analysis

	Original sample (O)	2.50%	97.50%	P values
kdfps -> dfl -> dfs	0.085	-0.003	0.173	0.06
kcrrp -> dfl -> dfs	0.227	0.136	0.335	0.000
adfrc -> dfl -> dfs	0.201	0.124	0.279	0.000

With a p-value of 0, digital financial literacy (dfl) serves as a mediator between customers' knowledge of their rights as consumers and their use of digital financial services. With a p-value of 0, Dfl significantly mediates the relationship between knowledge of digital financial hazards and use of digital financial services. But with a p-value of 0.06, which is more than 0, dfl does not act as a mediating factor between awareness of digital financial products and services and digital financial services.

5. Discussion

The study examines digital financial literacy among individuals by considering key factors such as knowledge of digital financial products and services, awareness of digital financial risks, knowledge of consumer rights and redress procedures, and their influence on the use of digital financial services. The findings reveal that digital financial literacy plays the strongest mediating role in promoting the use of digital financial services. The study includes five major variables: knowledge of digital financial products and services, awareness of digital financial risks and control, knowledge of consumer rights and redress procedures, digital financial literacy, and digital financial services usage.

The results indicate that awareness of digital financial risks and their control have a significant positive relationship with digital financial literacy ($\beta = 0.322$, $t = 6.034$, $p = 0.000$), suggesting that individuals who are more aware of potential risks are more likely to develop higher levels of digital financial literacy and use digital financial services effectively. Similarly, knowledge of consumer rights and redress procedures also shows a significant positive relationship with digital financial literacy ($\beta = 0.363$, $t = 5.793$, $p = 0.000$), indicating that understanding consumer protection mechanisms encourages individuals to engage more confidently in digital financial transactions.

Furthermore, digital financial literacy has a strong positive impact on the actual use of digital financial services ($\beta = 0.625$, $t = 10.475$, $p = 0.000$), demonstrating that individuals with higher levels of digital financial literacy are more likely to adopt and utilize digital financial platforms. However, the relationship

between knowledge of digital financial products and services and digital financial literacy was found to be statistically insignificant ($\beta = 0.136$, $t = 1.952$, $p = 0.051$). This suggests that having basic knowledge of digital financial products alone may not be sufficient to significantly influence individuals' digital financial literacy or their usage of digital financial services.

6. Conclusion

This study aimed to examine the level of digital financial literacy (DFL) among individuals in the Kathmandu Valley and their patterns of using digital financial services, while also identifying the key factors influencing adoption. The findings reveal that, although participants possess basic digital skills and some awareness of financial products, there is a substantial gap in understanding complex financial concepts and digital financial services. This underscores the need for targeted educational interventions, including tailored curricula, workshops, and awareness campaigns, to bridge knowledge gaps and equip individuals to make informed financial decisions. The study also highlights the role of demographic factors, showing that younger individuals and those with higher education levels demonstrate greater digital financial literacy, suggesting that interventions should consider age and educational background to be effective.

Furthermore, the analysis confirms that awareness of digital financial risks and controls (Adfrc) and knowledge of consumer rights and redress procedures (KCRRP) significantly influence DFL. These findings support the view that DFL is a psychological construct shaped by multiple motivating factors, emphasizing its centrality in enabling effective use of digital financial services. Accordingly, financial institutions should design strategies, policies, and services that align with the expectations of digitally literate consumers, while the government should focus on providing accessible, secure, and efficient digital financial services. Overall, the study offers actionable insights for stakeholders, including policymakers, financial institutions, and educators, to enhance financial inclusion, strengthen digital financial literacy, and foster greater trust and confidence among users of digital financial services in Nepal.

This study highlights the critical role of digital financial literacy (DFL) in promoting the effective use of digital financial services. The findings suggest that targeted educational initiatives are essential to enhance individuals' understanding of digital financial concepts, products, and risks. The results can guide the design of structured training programs, awareness campaigns, and learning materials tailored to address specific knowledge and skill gaps among users. Such initiatives would improve individuals' ability to make informed financial decisions and confidently engage with digital financial platforms.

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