

The Impact of Artificial Intelligence on Trust and Uninterrupted Usage Intention in AI Financial Service: Evidence from Bangladeshi Consumers

Farzana Amin

Assistant Professor, Port City International University, 7-14, Nikunja Housing Society, South Khulshi, Chattogram, Bangladesh.

ABSTRACT: In the case of financial services, AI is transforming the industry by offering automated support, one-on-one recommendations, digital payments, fraud detection, and decision-assistance based on data. Nevertheless, the long-term effectiveness of the AI-based financial services relies on consumer trust and the intention to use it constantly. This paper discusses the impact of perceived AI ability, AI visibility, AI customization, perceived security and privacy safeguard, and perceived risk on trust and continuance intention among the consumers of Bangladesh. Quantitative survey design was employed and 630 valid responses were examined using the partial least squares structural equation modelling. The measurement model yielded strong reliability, convergent, discriminant and acceptable collinearity. It is represented in the structural results that the perceived AI capability, AI transparency, AI personalization, and security and privacy protection are positively related to trust, whereas perceived risk is negatively related to trust. Trust is a significant predictor of continuous usage intention and shows mediating relations to all suggested indirect relationships. There also exists moderate explanatory power, predictive relevance, predictive power and acceptable supplementary fit in the model. The conclusions are that sustainable AI-oriented financial services must have effective systems, good explanations, responsible personalization, robust privacy protection, and risk mitigation measures. The research has implications to financial institutions, fintech providers, and regulators interested in retaining consumers in the emerging digital finance markets and inclusive digital transformation in Bangladesh today.

KEYWORDS: artificial intelligence, trust, continuous usage intention, AI based financial services, Bangladesh, PLS SEM.

1. INTRODUCTION

AI is currently a huge player in the financial services industry. Now, intelligent systems are being used by banks, fintech companies, financial service providers and payment platforms and digital wallets to support consumers. These systems are used to answer inquiries, make transactions, detect fraud, price credit risk and make financial recommendations. They also render economic services more readily available and swift. Many things can be done without going to a branch or waiting for human intervention. The expansion of AI based financial services is important for Bangladesh (Talukder et al., 2026). Mobile financial services, Internet banking, electronic payments and automated service channels have grown fast in the country. Digital finance is now being used by consumers to transfer funds, pay bills, shop online, save, make business payments, and make personal payments. These services come in handy as they eliminate the distance and time barrier. They also enable financial inclusion of users who might not rely entirely on mainstream financial services.

But the application of AI in the financial sector also raises questions. Financial services entail money, identity, personal data, and critical choices. The understanding of the consumers regarding automated systems might not be fully complete (Hussain et al., 2026). They may not know the process by which a recommendation is generated. They also may fear that decisions are made incorrectly, that others get in, misuse the data, and that there is low accountability. These concerns can lead to a decrease in trust, which can diminish future usage.

Trust has, thus, become a key element in AI finance services. Even if a service is technically advanced, it may fail to have sustained usage if the users do not trust the service. Trust reduces uncertainty. It instills trust in consumers who are using automated systems. It is also utilized repeatedly in financial pursuits. Trust is considered as the primary psychological mechanism to connect perceptions of AI related service with intention to continue usage in this study.

The intention for ongoing use is also important (Almamy et al., 2026). The first step towards a successful service is only the beginning towards adoption. A consumer might use it once for convenience or a need, but it's a digital or AI based service. However,

The Impact of Artificial Intelligence on Trust and Uninterrupted Usage Intention in AI Financial Service: Evidence from Bangladeshi Consumers

in order to sustain usage, this level of confidence and perceived value must be re-established every time it is used. AI based financial services that appear to be capable and understandable, personalized, secure and with low risk remain attractive to consumers, leading to continued use.

This study aims to explore the relationship between the perceived capability of AI, perceived transparency of AI, perceived personalization of AI, perceived security/privacy protection and perceived risk with trust and continuous usage intention among the Bangladeshi consumers (Nahar et al., 2026). The intervening variable “trust” is analyzed. The last outcome (continuous usage intention) is explored. The study is based on 630 respondents and employs partial least squares structural equation modelling.

The study sheds light on knowledge in a number of ways. First, it provides evidence from Bangladesh, an emerging digital finance market. Second, it incorporates positive AI service factors and perceived risk in a single model. Third, it is a test for the direct and indirect effects via the trust. Fourth, it offers predictive evidence in the form of R^2 , Q^2 and PLSpredict results (M. A. Islam et al., 2026). The contributions are pertinent for researchers, financial institutions, fintech providers, and regulators alike.

2. LITERATURE REVIEW

2.1 AI Based Financial Services

AI based financial services are financial services which are assisted by smart technologies, automated decision-making systems, data analysis, machine learning, natural language processing, and algorithmic recommendations (Cavus et al., 2021). The services consist of AI chatbots, automated customer support, fraud monitoring, digital credit scoring, mobile banking suggestions, digital wallets, and robo advisory services (Bansal et al., 2026). The key element in this is the use of technology for service delivery and for decision assistance.

In the financial services sector, AI can make a difference in numerous aspects. Can shorten service time. It is able to handle large data sets (Chandra Chanda et al., 2026). Can detect abnormal trading activity. It can help by providing individual recommendations. It can also facilitate customer support at all times. For developing economies, these benefits are important since many consumers lack access to these services, mostly due to distance, cost and access problems (M. Rahman et al., 2023).

At the same time, there could be uncertainty in the domain of AI-based financial services. When it comes to automated systems, the user may not be aware of how they work. May not know why a recommendation shows. They may not be aware of the way in which the personal information is stored, used or protected (Kumkum et al., 2026). These can impact the level of trust. Thus, perception of consumers plays a pivotal role in the success of AI based financial services.

2.2 Perceived AI Capability

Perceived AI capability is the expectation that an AI-driven financial service is accurate, fast, effective and reliable. The AI system is capable of giving correct answers. It provides efficient transaction processing (R. et al., 2026). Minimizes errors and aids in problem solving. Financial services is an industry in which capability is required, as errors can result in loss, hold-up or dissatisfaction (Alam et al., 2020).

If consumers believe that the AI system can do, they are more likely to believe it. Capability signals competence. It demonstrates the capability of the service to handle financial tasks appropriately. It can also cause consumers to continue using a competent service as it saves them time and effort (Hasnat et al., 2025). Hence, perceived AI capability is likely to lead to greater trust and intention to continue using.

2.3 AI Transparency

AI transparency is how well an individual understands the purpose and function of AI within a service. Transparent system informs users when automation used (Begum & Elahi, 2025). It also conveys recommendations, decisions, fee, risk and service conditions with clarity in simple words. Transparency decreases uncertainty and assists customers in making additional decisions.

For this reason, AI transparency plays a key role since intelligent systems may feel opaque and complicated. The consumer can't be told that a reply is from a human or an automated system (M. A. Rahman et al., 2025). They might also be unaware of the rationale for the suggested financial product/service action. Communication is clear and can make the service seem more accountable. So, transparency of AI is expected to boost trust.

2.4 AI Personalization

AI personalization can be defined as a financial service's ability to deliver appropriate support based on a person's wants, needs, and actions (Aktar et al., 2025). Some personalized services might include customized options for alerts, transaction reminders, spending insights, savings suggestions, product recommendations and tailored customer support. Personalisation can make it more convenient and make the service more useful.

The Impact of Artificial Intelligence on Trust and Uninterrupted Usage Intention in AI Financial Service: Evidence from Bangladeshi Consumers

Personalisation can also help to create the trust. If the service offers pertinent assistance, consumers can sense that the system is listening to them (Schrang, 2025). This can lead to self-assurance and contentment. Personalization could also directly influence the intention to continue using a service as users like the service to fit their financial activity (Sikder, 2023). But personalization needs to be responsible. Should not cause discomfort relating to use of data or privacy.

2.5 Perceived Security and Privacy Protection

Perceived security, privacy protection: A belief in security and protection of personal and financial information from AI-based financial services. This is crucial in the digital finance domain. When using financial platforms, sensitive information is being disclosed by consumers (Raihan et al., 2025). They believe that their identity, account details, information on their transactions and behavior should be private, protected and safeguarded.

Security and privacy protection can have a significant impact on trust. When consumers think a service puts in the proper precautions, they feel more secure (Sain & Adinugraha, 2025). Trust erodes if they believe that their data is being misused, or that their data is being accessed when it shouldn't be. In a data-driven, automated environment such as AI-based services, privacy becomes even more crucial as personalisation and automation relies on data (Le, 2025). Thus, a security and privacy protection perception is expected to give rise to trust.

2.6 Perceived Risk

Perceived risk is an apprehension about potentially harmful consequences of the use of AI based financial services. They can result in monetary damage, flawed automated judgments, violation of privacy, fraud, unauthorized access and failure of services (University of Illinois Springfield et al., 2025). When there is a risk, it can lead to a loss of confidence, which means users may be unsure what the consequences of using the service are.

Financial services are very vulnerable to risk. If a service or its errors or improper use can have a negative impact on the consumer, they may not use the service (Md. R. Islam et al., 2025). Trust may thus be undermined by perceived risk. It also may indirectly be responsible for a decrease in intention for continuous use through the detriment of consumer confidence. Thus, perceived risk is expected to have a negative effect on trust.

2.7 Trust and Continuous Usage Intention

Trust: This is the confidence in the reliability, dependability, and ability of an AI-powered financial service to act in the user's best interests (Ahmed et al., 2025). Trust is important as financial decisions need to be based on confidence. The consumers have to think that the service will save, and it will work properly. In a world marked by uncertainty, trust is essential to enable reliance on automated systems.

Continuous Usage Intention (CUI) denotes consumers' intentions to keep using AI Based Financial Services in the future. It indicates a rate of user retention and acceptance (Awal & Haque, 2025). It is expected that trust will strongly predict intention of continuous usage. Services that consumers believe are safe, useful and reliable are services that they continue to use (Tamanna & Sinha, 2025). Trust is also supposed to mediate the influence of AI related factors on intention to continue using in this study.

2.8 Hypotheses and Conceptual Framework

For the purpose of this study, the following factors are proposed from the literature review as the factors that may impact the trust factor: perceived AI capability, AI transparency, AI personalization, perceived security and privacy protection, and perceived risk (Miraz et al., 2024). It also suggests that continuous usage intention depends on the perceived AI capabilities, AI personalization and trust. Trust is further suggested to mediate between AI related antecedents and continuous usage intention (Akter et al., 2025).

H1: The perceived capability of AI is positively and significantly associated with trust.

H2 is supported as perceived AI capability positively and significantly influences the intention to use continuously.

H3: There is a positive and significant relationship between AI transparency and trust.

H5: AI personalization can significantly enhance trust.

H6: AI personalization positively and significantly influences attitudes toward continuous use.

H6: Perceived security/privacy protection positively and significantly influences trust.

H8: Perceived risk negatively and significantly influences trust.

H8: Trust positively and significantly affects Continuous Usage Intention.

H9: Perceived AI capability is positively related to the continuous usage intention through trust.

H10: There is a mediated path between AI transparency and continuous usage intention.

H11: Trust is a mediator between AI personalization and intention to continue using.

The Impact of Artificial Intelligence on Trust and Uninterrupted Usage Intention in AI Financial Service: Evidence from Bangladeshi Consumers

H12: Trust plays a mediating role between the perceived security and privacy protection and continuous usage intention.

H13: Trust acts as a mediator between perceived risk and the intention to use continuously.

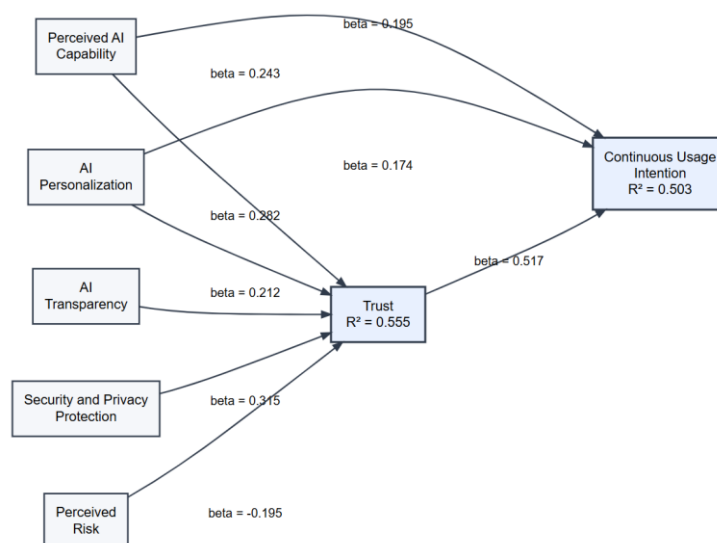


Figure 1 here: Conceptual Framework

3. METHODOLOGY

3.1 Research Design

The method of this study was quantitative research. To examine the latencies of constructs and test relationships among them and to explore the mediation of trust. This study measured perception, trust, and behavioral intention; thus, a structured survey was used (Adznan et al., 2024). A cross-sectional study was carried out. This data was gathered only once.

Partial least squares structural equation modelling was chosen as the method of analysis. PLS SEM was deemed appropriate since the model was prediction oriented with multiple constructs, direct effects and mediation paths. It also made it possible to evaluate the quality of the measurements prior to testing of the structural model.

3.2 Population and Sample

People who have used AI based or digitally automated financial services were identified as the target population, among the Bangladeshi consumers. The age of the respondents had to be 18 years old or older. They had to reside in Bangladesh. They all had to have utilized services that were relevant within the last six months (M. Rahman et al., 2023). These criteria allowed to ascertain that the responses are based on recent experience.

Six hundred and thirty (630) valid responses were used. The sample comprised of respondents belonging to all gender groups, age groups, education groups, employment groups, income groups, residence groups and divisions. This variation was effective to capture diverse consumer views about AI based financial services in Bangladesh.

3.3 Measurement Instrument

There were three sections to the questionnaire. A screening section was included in the first part. In the second part, demographic and usage profile information was obtained (Cavus et al., 2021). The third part measured the study constructs.

There were 7 constructs measured. Perceived AI capability, AI transparency, AI personalization, perceived security and protection of privacy, perceived risk, trust and continuous usage intention. Five items were used to measure each construct. A 5-point likers scale was employed. Responses ranged from strongly disagree to strongly agree.

It was intended that the items should be simple and clear. The respondents were asked to answer with reference to their experience of AI based or digitally automated financial services. The higher scores reflect greater agreement with the statements.

3.4 Data Analysis Procedure

The analysis was conducted in the systematic manner. Demographic and usage profiles were then summarized in terms of frequency and percentage (Emon, 2023). Secondly, descriptive statistics for measurement items were computed. Common method bias was tested through Harman's single factor test and full collinearity VIF, as the third step.

Fourth, the four indicators of Cronbach's alpha, rho A, composite reliability and average variance extracted and outer loadings were used to evaluate the measurement model. Finally, fifth discriminant validity was assessed by the Fornell Larcker criterion and

The Impact of Artificial Intelligence on Trust and Uninterrupted Usage Intention in AI Financial Service: Evidence from Bangladeshi Consumers

HTMT ratio. Finally, inner VIF values were used to evaluate collinearity. Seventh, Bootstrapping was used to test direct and indirect hypotheses. Finally, R^2 , f^2 , Q^2 , PLSpredict and model fit were examined.

4. RESULTS

4.1 Respondent Profile

The demographic result indicates that there were various kinds of consumers in the sample. The male respondents constituted 53.17 percent as compared to the female respondents who constituted 43.81 percent and that which preferred not to say comprised 3.02 percent. The age group 25 - 34 years had the highest population with 36.03 percent. The next age group was 35-44 years accounting for 24.29 percent.

The highest proportion of all groups to have a bachelor's degree was 39.68 percent. The proportion of Masters was 26.51 percent. The most common occupation (28.25 percent) was private service holders. 48.73 percent of the respondents were urban residents (Sikder, 2023). The highest share was found in Dhaka division (27.78 per cent). These findings demonstrate that the sample was representative of a wide consumers' segment.

Table 4.2: Demographic Profile

Variable	Category	Frequency	Percentage
Gender	Female	276	43.81
Gender	Male	335	53.17
Gender	Prefer not to say	19	3.02
Gender	Total	630	100.00
Age Group	18–24 years	145	23.02
Age Group	25–34 years	227	36.03
Age Group	35–44 years	153	24.29
Age Group	45–54 years	74	11.75
Age Group	55 years and above	31	4.92
Age Group	Total	630	100.01
Educational Qualification	Bachelor's degree	250	39.68
Educational Qualification	Higher secondary	125	19.84
Educational Qualification	MPhil/PhD	24	3.81
Educational Qualification	Master's degree	167	26.51
Educational Qualification	Other	8	1.27
Educational Qualification	Secondary or below	56	8.89
Educational Qualification	Total	630	100.00
Occupation	Business owner	107	16.98
Occupation	Freelancer/self-employed	90	14.29
Occupation	Government service holder	61	9.68
Occupation	Homemaker	49	7.78
Occupation	Other	29	4.60
Occupation	Private service holder	178	28.25
Occupation	Student	93	14.76
Occupation	Unemployed	23	3.65
Occupation	Total	630	99.99
Monthly Income	BDT 20,000–39,999	172	27.30
Monthly Income	BDT 40,000–59,999	137	21.75
Monthly Income	BDT 60,000–79,999	99	15.71
Monthly Income	BDT 80,000 and above	53	8.41
Monthly Income	Below BDT 20,000	132	20.95
Monthly Income	Prefer not to say	37	5.87
Monthly Income	Total	630	99.99

The Impact of Artificial Intelligence on Trust and Uninterrupted Usage Intention in AI Financial Service: Evidence from Bangladeshi Consumers

Place of Residence	Rural	176	27.94
Place of Residence	Semi-urban	147	23.33
Place of Residence	Urban	307	48.73
Place of Residence	Total	630	100.00
Division	Barishal	48	7.62
Division	Chattogram	97	15.40
Division	Dhaka	175	27.78
Division	Khulna	67	10.63
Division	Mymensingh	51	8.10
Division	Rajshahi	71	11.27
Division	Rangpur	68	10.79
Division	Sylhet	53	8.41
Division	Total	630	100.00

In terms of service type, mobile financial services were the most commonly used services as illustrated in the usage profile. 36.35 percent of the respondents fell in this category. Internet/mobile banking accounted for 23.81 per cent. 14.60 percent was digital payment or wallet. AI chatbot/automated customer service was 11.75 per cent.

Frequency of use was great (Alam et al., 2020). Thirty two percent of the respondents reported this several times a week. 30.63 percent reported using daily. This was rare for 5.08 percent. 100% of the respondents had recent experience with usage. This will validate the appropriateness of the sample for the study.

Table 4.3: Usage Profile

Variable	Category	Frequency	Percentage
Type of AI-Based Financial Service Used	AI chatbot or automated customer support	74	11.75
Type of AI-Based Financial Service Used	Digital loan or credit scoring service	37	5.87
Type of AI-Based Financial Service Used	Digital payment or wallet service	92	14.60
Type of AI-Based Financial Service Used	Internet or mobile banking	150	23.81
Type of AI-Based Financial Service Used	Investment or robo-advisory service	10	1.59
Type of AI-Based Financial Service Used	Mobile financial services	229	36.35
Type of AI-Based Financial Service Used	Personalized financial recommendation service	38	6.03
Type of AI-Based Financial Service Used	Total	630	100.00
Frequency of Usage	Daily	193	30.63
Frequency of Usage	Once a week	98	15.56
Frequency of Usage	Rarely	32	5.08
Frequency of Usage	Several times a month	105	16.67
Frequency of Usage	Several times a week	202	32.06
Frequency of Usage	Total	630	100.00
Recent Usage Experience	Yes	630	100.00
Recent Usage Experience	Total	630	100.00
Main Purpose of Using AI-Based Financial Services	Not available in dataset	—	—

4.2 Descriptive Statistics and Common Method Bias

Moderate levels of agreement for most items are shown from the descriptive statistics. Mean values ranged from 2.838 to 3.490. The least mean was for use of AI-based financial services oneself. The lowest mean was the concern about the possibility of AI based services to make wrong financial decisions.

The means for the perceived risk items were relatively low compared to many positive constructs. This indicates that there was some risk concern, but it was not the predominant response pattern. Good variation of standard deviations. This enabled additional analyses.

The Impact of Artificial Intelligence on Trust and Uninterrupted Usage Intention in AI Financial Service: Evidence from Bangladeshi Consumers

Table 4.4: Descriptive Statistics of Measurement Items

Construct	Item	Statement	N	Min	Max	Mean	SD
Perceived AI Capability	AIC1	AI-based financial services provide accurate responses or recommendations.	630	1	5	3.171	1.284
Perceived AI Capability	AIC2	AI-based financial services process my financial tasks quickly.	630	1	5	3.175	1.275
Perceived AI Capability	AIC3	AI-based financial services are capable of solving my financial service-related problems effectively.	630	1	5	3.338	1.269
Perceived AI Capability	AIC4	AI-based financial services reduce errors in financial transactions or service delivery.	630	1	5	3.321	1.246
Perceived AI Capability	AIC5	AI-based financial services improve the overall quality of financial service experience.	630	1	5	3.343	1.256
AI Transparency	AIT1	AI-based financial services clearly explain how their recommendations or decisions are made.	630	1	5	3.375	1.273
AI Transparency	AIT2	I can understand the information provided by AI-based financial services.	630	1	5	3.298	1.257
AI Transparency	AIT3	AI-based financial services clearly inform users when automated systems are involved.	630	1	5	3.371	1.249
AI Transparency	AIT4	AI-based financial services provide sufficient information before I make financial decisions.	630	1	5	3.186	1.274
AI Transparency	AIT5	The decision-making process of AI-based financial services appears understandable to me.	630	1	5	3.213	1.249
AI Personalization	AIP1	AI-based financial services provide services according to my personal financial needs.	630	1	5	3.308	1.245
AI Personalization	AIP2	AI-based financial services offer recommendations that are relevant to my financial behavior.	630	1	5	3.162	1.305
AI Personalization	AIP3	AI-based financial services make my financial activities more convenient through personalized features.	630	1	5	3.168	1.239
AI Personalization	AIP4	AI-based financial services understand my preferences based on my previous usage.	630	1	5	3.265	1.274
AI Personalization	AIP5	Personalized AI-based financial services improve my overall user experience.	630	1	5	3.278	1.241
Perceived Security and Privacy Protection	PSP1	I believe AI-based financial services protect my personal information properly.	630	1	5	3.298	1.258
Perceived Security and Privacy Protection	PSP2	I feel secure when conducting transactions through AI-based financial services.	630	1	5	3.378	1.223
Perceived Security and Privacy Protection	PSP3	AI-based financial services use appropriate security measures to protect user data.	630	1	5	3.432	1.280
Perceived Security and Privacy Protection	PSP4	I believe my financial information is handled responsibly by AI-based financial services.	630	1	5	3.225	1.281
Perceived Security and Privacy Protection	PSP5	AI-based financial services provide a safe environment for digital financial transactions.	630	1	5	3.305	1.274
Perceived Risk	PR1	I am concerned that AI-based financial services may misuse my personal information.	630	1	5	2.873	1.230
Perceived Risk	PR2	I feel that using AI-based financial services may involve financial risk.	630	1	5	2.921	1.230
Perceived Risk	PR3	I am concerned that AI-based financial services may make incorrect financial decisions.	630	1	5	2.838	1.276

The Impact of Artificial Intelligence on Trust and Uninterrupted Usage Intention in AI Financial Service: Evidence from Bangladeshi Consumers

Perceived Risk	PR4	I worry about unauthorized access to my account when using AI-based financial services.	630	1	5	3.071	1.242	
Perceived Risk	PR5	I feel uncertain about depending on AI-based systems for financial services.	630	1	5	2.856	1.228	
Trust	TR1	I trust AI-based financial services to perform financial tasks reliably.	630	1	5	3.295	1.262	
Trust	TR2	I believe AI-based financial services act in the best interest of users.	630	1	5	3.252	1.240	
Trust	TR3	I feel confident when using AI-based financial services.	630	1	5	3.452	1.232	
Trust	TR4	I believe AI-based financial services are dependable.	630	1	5	3.195	1.253	
Trust	TR5	Overall, I trust AI-based financial services for managing financial activities.	630	1	5	3.346	1.241	
Continuous Intention	Usage	CUI1	I intend to continue using AI-based financial services in the future.	630	1	5	3.316	1.247
Continuous Intention	Usage	CUI2	I will use AI-based financial services more frequently in the future.	630	1	5	3.281	1.254
Continuous Intention	Usage	CUI3	I prefer to continue using AI-based financial services rather than traditional financial service channels.	630	1	5	3.240	1.264
Continuous Intention	Usage	CUI4	I would recommend AI-based financial services to others.	630	1	5	3.490	1.218
Continuous Intention	Usage	CUI5	I am willing to rely on AI-based financial services for future financial activities.	630	1	5	3.259	1.253

Prior to testing the model, common method bias was examined. According to the single factor test of Harman, the first factor accounted for 34.41% of the variance. This was below 50 per cent. The maximum of the full collinearity VIF was 2.665. That's lower than the target of 3.30. Thus, there was no serious problem of common method bias.

Table 4.5: Common Method Bias Assessment

Test	Indicator	Value	Threshold	Decision
Harman's Single-Factor Test	Variance explained by the first factor	34.41	Less than 50%	Common method bias is not a serious concern
Full Collinearity VIF Test	Maximum full collinearity VIF	2.665	Less than 3.30	Common method bias is not a serious concern

4.3 Measurement Model Assessment

Measurement model exhibited good reliability and validity. Cronbach's alpha values ranged from 0.920 to 0.934. rho A values ranged from 0.922 to 0.934. The range of composite reliability values was between 0.920 and 0.934. The average values of variance extracted varied from 0.699 to 0.740. All values were higher than acceptable limits.

These findings make it possible to confirm that the constructs had internal consistency. They also validate that these items accounted for the variance in each of their constructs (Talukder et al., 2026). Thus, convergent validity was achieved.

Table 4.6: Measurement Model Assessment

Construct	Cronbach's Alpha	rho_A	Composite Reliability	Average Variance Extracted	Decision
Perceived AI Capability	0.923	0.924	0.923	0.707	Acceptable
AI Transparency	0.924	0.924	0.924	0.708	Acceptable
AI Personalization	0.920	0.922	0.920	0.699	Acceptable
Security Privacy Protection	0.926	0.927	0.926	0.714	Acceptable
Perceived Risk	0.923	0.926	0.922	0.704	Acceptable
Trust	0.934	0.934	0.934	0.740	Acceptable

The Impact of Artificial Intelligence on Trust and Uninterrupted Usage Intention in AI Financial Service: Evidence from Bangladeshi Consumers

Continuous Usage Intention	0.931	0.931	0.931	0.729	Acceptable
----------------------------	-------	-------	-------	-------	------------

The reliability of indicators was tested for outer loadings. All items loaded above 0.70. The smallest loading was 0.854. The maximum loading was 0.903. 100% of the indicator reliability values were satisfactory. There was no need to remove anything. Thus, all measurement items were kept for further analysis.

Table 4.7: Outer Loadings of Measurement Items

Construct	Item	Outer Loading	Indicator Reliability	Threshold	Decision
Perceived AI Capability	AIC1	0.878	0.771	Outer loading above 0.70	Retained
Perceived AI Capability	AIC2	0.882	0.779	Outer loading above 0.70	Retained
Perceived AI Capability	AIC3	0.871	0.758	Outer loading above 0.70	Retained
Perceived AI Capability	AIC4	0.867	0.751	Outer loading above 0.70	Retained
Perceived AI Capability	AIC5	0.876	0.768	Outer loading above 0.70	Retained
AI Transparency	AIT1	0.877	0.770	Outer loading above 0.70	Retained
AI Transparency	AIT2	0.861	0.741	Outer loading above 0.70	Retained
AI Transparency	AIT3	0.874	0.764	Outer loading above 0.70	Retained
AI Transparency	AIT4	0.873	0.763	Outer loading above 0.70	Retained
AI Transparency	AIT5	0.892	0.796	Outer loading above 0.70	Retained
AI Personalization	AIP1	0.868	0.754	Outer loading above 0.70	Retained
AI Personalization	AIP2	0.872	0.761	Outer loading above 0.70	Retained
AI Personalization	AIP3	0.861	0.742	Outer loading above 0.70	Retained
AI Personalization	AIP4	0.898	0.807	Outer loading above 0.70	Retained
AI Personalization	AIP5	0.854	0.729	Outer loading above 0.70	Retained
Perceived Security and Privacy Protection	PSP1	0.876	0.767	Outer loading above 0.70	Retained
Perceived Security and Privacy Protection	PSP2	0.881	0.775	Outer loading above 0.70	Retained
Perceived Security and Privacy Protection	PSP3	0.882	0.778	Outer loading above 0.70	Retained
Perceived Security and Privacy Protection	PSP4	0.873	0.762	Outer loading above 0.70	Retained
Perceived Security and Privacy Protection	PSP5	0.879	0.774	Outer loading above 0.70	Retained

The Impact of Artificial Intelligence on Trust and Uninterrupted Usage Intention in AI Financial Service: Evidence from Bangladeshi Consumers

Perceived Risk	PR1	0.876	0.768	Outer 0.70	loading	above	Retained
Perceived Risk	PR2	0.872	0.760	Outer 0.70	loading	above	Retained
Perceived Risk	PR3	0.872	0.761	Outer 0.70	loading	above	Retained
Perceived Risk	PR4	0.875	0.766	Outer 0.70	loading	above	Retained
Perceived Risk	PR5	0.874	0.765	Outer 0.70	loading	above	Retained
Trust	TR1	0.903	0.815	Outer 0.70	loading	above	Retained
Trust	TR2	0.871	0.759	Outer 0.70	loading	above	Retained
Trust	TR3	0.889	0.791	Outer 0.70	loading	above	Retained
Trust	TR4	0.889	0.791	Outer 0.70	loading	above	Retained
Trust	TR5	0.895	0.802	Outer 0.70	loading	above	Retained
Continuous Usage Intention	CUI1	0.877	0.769	Outer 0.70	loading	above	Retained
Continuous Usage Intention	CUI2	0.878	0.771	Outer 0.70	loading	above	Retained
Continuous Usage Intention	CUI3	0.895	0.800	Outer 0.70	loading	above	Retained
Continuous Usage Intention	CUI4	0.884	0.782	Outer 0.70	loading	above	Retained
Continuous Usage Intention	CUI5	0.889	0.790	Outer 0.70	loading	above	Retained

The Fornell Larcker criterion was used to determine the discriminant validity (Hussain et al., 2026). Correlations of diagonal values were greater than values with other constructs. This implies that each construct was an empirical phenomenon that could be distinguished. Discriminant validity was also confirmed by the HTMT ratio. None of the HTMT values were above recommended threshold. The highest of these was 0.713. This was acceptable.

Table 4.8: Fornell-Larcker Criterion

Construct	Perceived AI Capability	AI Transparency	AI Personalization	Security Privacy Protection	Perceived Risk	Trust	Continuous Usage Intention
Perceived AI Capability	1.000	0.310	0.367	0.224	0.116	0.506	0.520
AI Transparency	0.310	1.000	0.265	0.245	0.076	0.454	0.347
AI Personalization	0.367	0.265	1.000	0.333	0.143	0.561	0.535
Security Privacy Protection	0.224	0.245	0.333	1.000	0.201	0.554	0.404
Perceived Risk	0.116	0.076	0.143	0.201	1.000	0.343	0.189
Trust	0.506	0.454	0.561	0.554	0.343	1.000	0.713
Continuous Usage Intention	0.520	0.347	0.535	0.404	0.189	0.713	1.000

The Impact of Artificial Intelligence on Trust and Uninterrupted Usage Intention in AI Financial Service: Evidence from Bangladeshi Consumers

Table 4.9: HTMT Ratio

Construct	Perceived AI Capability	AI Transparency	AI Personalization	Security Privacy Protection	Perceived Risk	Trust	Continuous Usage Intention
Perceived AI Capability	1.000	0.310	0.367	0.224	0.116	0.506	0.520
AI Transparency	0.310	1.000	0.265	0.245	0.076	0.454	0.347
AI Personalization	0.367	0.265	1.000	0.333	0.143	0.561	0.535
Security Privacy Protection	0.224	0.245	0.333	1.000	0.201	0.554	0.404
Perceived Risk	0.116	0.076	0.143	0.201	1.000	0.343	0.189
Trust	0.506	0.454	0.561	0.554	0.343	1.000	0.713
Continuous Usage Intention	0.520	0.347	0.535	0.404	0.189	0.713	1.000

Collinearity was tested by examining the inner VIF. All values were below 3.30 and 5.00. For trust, VIF values ranged from 1.045 to 1.233. The values for the continuous usage intention were between 1.304 and 1.582. The results demonstrate that collinearity was not an issue in this model.

Table 4.10: Inner VIF Values

Endogenous Construct	Predictor Construct	Inner VIF	Preferred Threshold	Maximum Threshold	Decision
Trust	Perceived AI Capability	1.199	Below 3.30	Below 5.00	Acceptable
Trust	AI Transparency	1.143	Below 3.30	Below 5.00	Acceptable
Trust	AI Personalization	1.233	Below 3.30	Below 5.00	Acceptable
Trust	Security Privacy Protection	1.167	Below 3.30	Below 5.00	Acceptable
Trust	Perceived Risk	1.045	Below 3.30	Below 5.00	Acceptable
Continuous Usage Intention	Perceived AI Capability	1.304	Below 3.30	Below 5.00	Acceptable
Continuous Usage Intention	AI Personalization	1.392	Below 3.30	Below 5.00	Acceptable
Continuous Usage Intention	Trust	1.582	Below 3.30	Below 5.00	Acceptable

4.4 Structural Model Assessment

All the direct hypotheses were supported by the results of the path coefficient analyses. Perceived AI capability had a positive effect on trust and continuous usage intention (Almamy et al., 2026). Transparency in AI led to an improvement of the level of trust. The positive impact of AI personalization was on the trust and intention to continue use. The security and privacy protection positively impacted trust. Perceived risk had a negative effect on trust. Trust positively influenced the continuous usage intention.

Table 4.11: Path Coefficients

Hypothesis	Relationship	Path Coefficient	Standard Deviation	t-value	p-value	CI Lower	CI Upper	Expected Direction	Decision
H1	Perceived AI Capability → Trust	0.236	0.030	8.007	0.000	0.177	0.293	Positive	Supported
H2	Perceived AI Capability → Continuous Usage Intention	0.196	0.034	5.824	0.000	0.132	0.261	Positive	Supported

The Impact of Artificial Intelligence on Trust and Uninterrupted Usage Intention in AI Financial Service: Evidence from Bangladeshi Consumers

H3	AI Transparency → Trust	0.206	0.029	7.149	0.000	0.150	0.263	Positive	Supported
H4	AI Personalization → Trust	0.273	0.032	8.657	0.000	0.210	0.334	Positive	Supported
H5	AI Personalization → Continuous Usage Intention	0.180	0.034	5.333	0.000	0.111	0.245	Positive	Supported
H6	Perceived Security and Privacy Protection → Trust	0.300	0.028	10.664	0.000	0.244	0.356	Positive	Supported
H7	Perceived Risk → Trust	-0.187	0.027	-6.835	0.000	-0.241	-0.131	Negative	Supported
H8	Trust → Continuous Usage Intention	0.480	0.035	13.674	0.000	0.410	0.549	Positive	Supported

Significance of all direct paths was confirmed by bootstrapping with 5000 subsamples. Trust had the highest impact with $\beta = 0.517$ and $t = 12.474$. It is determined that security and privacy protection had the highest impact on trust with a β value of 0.315 and a t value of 10.043. The perceived risk also showed significant negative impact on trust, $\beta = -0.195$ and $t = -6.581$. None of the confidence intervals contained zero.

Table 4.12: Bootstrapping Results

Hypothesis	Relationship	Beta Coefficient	Bootstrap Mean	Bootstrap SD	t-statistics	p-values	Bias-Corrected Lower 2.5% CI	Bias-Corrected Upper 97.5% CI	Decision
H1	Perceived AI Capability → Trust	0.243	0.243	0.033	7.358	0.000	0.176	0.307	Supported
H2	Perceived AI Capability → Continuous Usage Intention	0.195	0.194	0.038	5.174	0.000	0.122	0.267	Supported
H3	AI Transparency → Trust	0.212	0.212	0.031	6.819	0.000	0.152	0.273	Supported
H4	AI Personalization → Trust	0.282	0.281	0.035	8.157	0.000	0.213	0.349	Supported
H5	AI Personalization → Continuous Usage Intention	0.174	0.175	0.039	4.470	0.000	0.099	0.249	Supported
H6	Security and Privacy Protection → Trust	0.315	0.316	0.031	10.043	0.000	0.253	0.376	Supported

The Impact of Artificial Intelligence on Trust and Uninterrupted Usage Intention in AI Financial Service: Evidence from Bangladeshi Consumers

H7	Perceived Risk → Trust	-0.195	-0.195	0.030	-6.581	0.000	-0.252	-0.136	Supported
H8	Trust → Continuous Usage Intention	0.517	0.517	0.041	12.474	0.000	0.434	0.599	Supported

R² value of trust was 0.555. This accounts for 55.5 per cent of the variance of trust. The R² value of the continuous usage intention was 0.503. This accounted for 50.3 percent of the variance in the continuous usage intention, with perceived AI capability, AI personalization and trust as the three factors. Moderate explanatory power for both.

Table 4.13: Coefficient of Determination

Endogenous Construct	Predictors	R ²	Adjusted R ²	Interpretation
Trust	Perceived AI Capability, AI Transparency, AI Personalization, Security and Privacy Protection, Perceived Risk	0.555	0.552	Moderate
Continuous Usage Intention	Perceived AI Capability, AI Personalization, Trust	0.503	0.501	Moderate

By interpreting the individual contribution of each predictor, results of the effect size displayed. The intermediate factors were security and protection of privacy with f square equal to 0.175. The effect of trust on continuous usage intention was medium with the value of f² of 0.292. Small effects were found for the other predictors (Nahar et al., 2026). The results indicate that the trust and security related perceptions are particularly significant in the model.

Table 4.14: Effect Size Results

Endogenous Construct	Predictor Construct	R ² Included	R ² Excluded	f ²	Effect Size
Trust	Perceived AI Capability	0.555	0.509	0.104	Small Effect
Trust	AI Transparency	0.555	0.518	0.084	Small Effect
Trust	AI Personalization	0.555	0.495	0.135	Small Effect
Trust	Security Privacy Protection	0.555	0.477	0.175	Medium Effect
Trust	Perceived Risk	0.555	0.522	0.075	Small Effect
Continuous Usage Intention	Perceived AI Capability	0.503	0.474	0.059	Small Effect
Continuous Usage Intention	AI Personalization	0.503	0.480	0.047	Small Effect
Continuous Usage Intention	Trust	0.503	0.358	0.292	Medium Effect

Predictive relevance was determined. The value of the Q² for trust was 0.545. The Q² for continuous usage intention was 0.499. The two numbers both had a positive value. Thus, the model was predictively relevant for both the endogenous constructs.

Table 4.15: Predictive Relevance

Endogenous Construct	Predictors	PRESS	SSO	Q ²	Threshold	Interpretation
Trust	Perceived AI Capability, AI Transparency, AI Personalization, Security Privacy Protection, Perceived Risk	286.128	629	0.545	Q ² > 0	Predictive Relevance Established
Continuous Usage Intention	Perceived AI Capability, AI Personalization, Trust	314.902	629	0.499	Q ² > 0	Predictive Relevance Established

All the expected relationships were mediated by trust as confirmed by the mediation analysis (M. A. Islam et al., 2026). Perceived AI capability had an indirect effect of 0.126. AI transparency had an indirect effect of 0.110. AI personalization had an indirect effect

The Impact of Artificial Intelligence on Trust and Uninterrupted Usage Intention in AI Financial Service: Evidence from Bangladeshi Consumers

of 0.146. The highest indirect impact was on security and privacy protection (0.163). The indirect effect of perceived risk was -0.101. Mediations effects of all were significant.

Table 4.16: Mediation Analysis Results

Hypothesis	Relationship	a Path	b Path	Direct Effect	Indirect Effect	Bootstrap Mean	Bootstrap SD	t-value	p-value	CI Lower 2.5%	CI Upper 97.5%	Mediation Decision
H9	Perceived AI Capability → Trust → Continuous Usage Intention	0.243	0.518	0.193	0.126	0.126	0.021	5.956	0.000	0.088	0.171	Mediation Supported
H10	AI Transparency → Trust → Continuous Usage Intention	0.212	0.518	0.005	0.110	0.110	0.019	5.750	0.000	0.076	0.153	Mediation Supported
H11	AI Personalization → Trust → Continuous Usage Intention	0.282	0.518	0.171	0.146	0.146	0.024	5.985	0.000	0.103	0.198	Mediation Supported
H12	Security and Privacy Protection → Trust → Continuous Usage Intention	0.315	0.518	0.025	0.163	0.163	0.024	6.812	0.000	0.119	0.214	Mediation Supported
H13	Perceived Risk → Trust → Continuous Usage Intention	-0.195	0.518	0.041	-0.101	-0.101	0.019	-5.429	0.000	-0.141	-0.069	Mediation Supported

The result of predictive power assessment indicated that the model good the usage intention to use continuously. The PLS RMSE was 0.709 compared to a benchmark RMSE of 1.001. The PLS MAE was equal to 0.577, and the benchmark MAE was equal to 0.841. The Q^2 predict value was equal to 0.497. The prediction errors of the PLS were less than the benchmark errors. Thus, predictive power was set up.

The Impact of Artificial Intelligence on Trust and Uninterrupted Usage Intention in AI Financial Service: Evidence from Bangladeshi Consumers

Table 4.17: PLSpredict Results

Target Construct	Predictors	PLS RME	PLS MAE	Benchmark RMSE	Benchmark MAE	Q ² predict	RMSE Comparison	MAE Comparison	Predictive Relevance	Predictive Power Decision
Continuous Usage Intention	Perceived AI Capability, AI Personalization, Trust	0.709	0.577	1.001	0.841	0.497	PLS-SEM lower than benchmark	PLS-SEM lower than benchmark	Established	Predictive Power Established

Model fit was acceptable for supplementary. The value of the SRMR model fit was good (0.021). The NFI value was 0.970, deemed to be acceptable fit. The RMS value of the theta (0.010) was also acceptable. These results provide some additional model adequacy evidence (Bansal et al., 2026).

Table 4.18: Model Fit Summary

Fit Index	Full Name	Value	Recommended Criterion	Interpretation
SRMR	Standardized Root Mean Square Residual	0.021	Less than 0.08 is good; less than 0.10 is acceptable	Good Fit
NFI	Normed Fit Index	0.970	Closer to 1; commonly 0.90 or above is acceptable	Acceptable Fit
RMS_theta	Root Mean Square Theta	0.010	Less than 0.12 is acceptable	Acceptable Fit

This confirms that all thirteen hypotheses are supported by the hypothesis testing summary. There were significant direct and mediation effects. Thus, the data supported the proposed trust-based model.

Table 4.19: Hypothesis Testing Summary

Hypothesis	Relationship	Effect Type	Path Coefficient	t-value	p-value	CI Lower 2.5%	CI Upper 97.5%	Decision
H1	Perceived AI Capability → Trust	Direct Effect	0.243	7.358	0.000	0.176	0.307	Supported
H2	Perceived AI Capability → Continuous Usage Intention	Direct Effect	0.195	5.174	0.000	0.122	0.267	Supported
H3	AI Transparency → Trust	Direct Effect	0.212	6.819	0.000	0.152	0.273	Supported
H4	AI Personalization → Trust	Direct Effect	0.282	8.157	0.000	0.213	0.349	Supported
H5	AI Personalization → Continuous Usage Intention	Direct Effect	0.174	4.470	0.000	0.099	0.249	Supported
H6	Security and Privacy Protection → Trust	Direct Effect	0.315	10.043	0.000	0.253	0.376	Supported
H7	Perceived Risk → Trust	Direct Effect	-0.195	-6.581	0.000	-0.252	-0.136	Supported
H8	Trust → Continuous Usage Intention	Direct Effect	0.517	12.474	0.000	0.434	0.599	Supported
H9	Perceived AI Capability → Trust → Continuous Usage Intention	Indirect Effect	0.126	6.363	0.000	0.088	0.166	Supported
H10	AI Transparency → Trust → Continuous Usage Intention	Indirect Effect	0.110	6.183	0.000	0.077	0.149	Supported

The Impact of Artificial Intelligence on Trust and Uninterrupted Usage Intention in AI Financial Service: Evidence from Bangladeshi Consumers

H11	AI Personalization → Trust → Continuous Usage Intention	Indirect Effect	0.146	6.628	0.000	0.105	0.192	Supported
H12	Security and Privacy Protection → Trust → Continuous Usage Intention	Indirect Effect	0.163	7.538	0.000	0.122	0.207	Supported
H13	Perceived Risk → Trust → Continuous Usage Intention	Indirect Effect	-0.101	-5.974	0.000	-0.136	-0.070	Supported

5. DISCUSSION

Results reveal that TRUST is the most powerful factor to continuously use the website. The direct influence on continued use was greatest with trust. It was also of medium effect size. It is to say that, when consumers perceive the system to be reliable and trustworthy they continue to use AI based financial services (Chandra Chanda et al., 2026). This is particularly crucial in the financial sector, where users interact with monetary data and financial transactions.

Trust was most affected by security and privacy protection. This discovery is significant as AI-driven financial services rely on user data. The identity information, transaction records, account information, and behavior of the consumers can be shared (Kumkum et al., 2026). When they think such information is secure, they're more inclined to accept a service. The outcome demonstrates that privacy and security are not just technical issues. They're also key trust building ingredients.

AI personalization also had an impact on trust and continuous usage intention. Precise services can make monetary platforms more relevant. They have the capability to offer recommendations and assistance in tandem with user needs. This can make it easier and more comfortable (R. et al., 2026). But Personalization needs to be responsible. It should add value without violating the sense of privacy for the user.

The effects of perceived AI capability were found to be positive, for both trust and continuous usage intention. This means that customers appreciate service performance (Hasnat et al., 2025). They are inclined to believe that AI systems may offer them correct and prompt responses and valuable help. A competent system is an indicator of reliability. It also helps to ensure and regulate consumers' usage of the service.

There was a positive impact on trust for AI transparency. Clear information of automated systems is appreciated by consumers. They want to be told when AI is used and why they are recommended or made decisions. The more things are explained, the less it is a mystery. They also help to make the service feel more accountable. Transparency is thus crucial to the creation of trustworthy AI.

There was a negative relationship between perceived risk and trust. Risk concern erodes confidence – this is being confirmed. Some of the concerns consumers may have include financial loss, wrong decisions, privacy misuse and unauthorized access (Begum & Elahi, 2025). Such concerns can lead to a loss of trust and continued use. The negative mediation result also demonstrates that risk negatively impacts continuous usage intention via trust.

The mediation outcomes are given a more detailed explanation of the model. All proposed indirect relationship paths were mediated by "trust. This implies that factors related to AI can affect the continuous usage intention by affecting trust. Security and protection of privacy was the most indirect effect (Aktar et al., 2025). This indicates that safety of services helps promote sustained use and consumer confidence.

Explanatory and predictive results are reinforcing the study. The model accounted for 55.5% of the variance in trust and 50.3% in continuous usage intention (M. A. Rahman et al., 2025). It also showed predictive relevance and predictive power. Hence, this model can be used for explanations as well as prediction. It can assist researchers and practitioners to comprehend the factors that drive consumers to keep utilizing AI based financial services.

The results indicate that AI-driven financial service should be focussed on trusted automation. Robots cannot do everything (Schrack, 2025). A fast service could be rejected simply because of user's lack of trust. Personalization of a service can be done, however, there can be issues with privacy concerns if it is not transparent to the user. Thus, the AI powered financial services should be done in a way such that it provides performance, transparency, personalization, security and minimizes risk.

This conclusion is very relevant for the case of Bangladesh. All financial services are going digital and spreading across consumer groups. The users vary in their educational, income, residing, occupation and digital skill. The design of the service should thus be simple and inclusive (Raihan et al., 2025). Use of the terminologies should not be used as a basis for building trust. This has to be done with transparency, safe communication, and solid support.

The Impact of Artificial Intelligence on Trust and Uninterrupted Usage Intention in AI Financial Service: Evidence from Bangladeshi Consumers

The research also reveals that consumers are not all out risk-averse against using AI based financial services. There is risk concern, but this can be addressed. However, if consumers feel there is a strong capability, security, privacy and transparency, then trust can increase. This trust can enable the long-term use intentions in a delicate financial scenario.

A second implication is related to users' confidence during the period of service failure. While AI financial services might do fine in the regular business, it is during the event of a problem where trust is strained. When transfers and confirmations fail, account restrictions, suspicious activity alerts and rejected transfers can foster anxiety. During such times, consumers should be provided with clear information and swift assistance (Sain & Adinugraha, 2025). However, if the platform is only responding to queries with automation and nothing more, there could be a loss in trust. That's why it is necessary for providers to blend AI efficiency with human assistance, which is readily available for complicated cases. A hybrid support model can help consumers feel safe and secure whilst empowering them with automation. This is particularly pertinent in Bangladesh, where a large number of users rely on digital finance for their day-to-day activities. Recoverability mechanisms can mitigate perceived risks and safeguard continued usage intentions (Le, 2025). Service recovery should therefore also be on the AI governance agenda. It needs to involve complaint monitoring, time standards for responding to complaints and a clear allocation of responsibilities for any errors made. It provides a boost of trust after service disruption in a great way.

6. THEORETICAL CONTRIBUTIONS

The contributions of this study in AI in the field of financial services research are: A trust based continuance model is developed (University of Illinois Springfield et al., 2025). The model incorporates perceived capability of AI, transparency, personalisation, security and privacy protection, and perceived risk. It thus accounts for consumer behavior from a positive position as well as a negative risk position.

The study also validates the role of mediating variable of trust. Trust as a mediator path to continuous usage intention of AI related factors (Md. R. Islam et al., 2025). This is significant as direct effects alone are not sufficient to explain continuance behavior. Trust acts as a psychological link between assessing the service and using it again.

The study also provides evidence from Bangladesh. Much of the research into AI and fintech is done in developed markets. The findings included in this study demonstrate that trustworthy AI design is also crucial in novel digital finance markets. The results can inform the future studies on AI trust, digital finance and consumer continuance in the context of developing economies.

7. PRACTICAL IMPLICATIONS

There is a need for financial institutions and fintech companies to enhance AI capability (Ahmed et al., 2025). The information that AI systems give needs to be accurate, the processing needs to be quick, and the problem solving needs to be effective. Poor performance has a negative effect on trust and subsequent use. Frequent testing and service monitoring must be done.

Providers need to make things more transparent. It is important that users are aware of the presence of AI when using it. They should be given clear information regarding recommendations, decisions about services, fees, risks, and outcomes. The texts should be in simple language (Akter et al., 2025). It is important to integrate transparency into the user path.

Strategic priority – security and protection of privacy. Providers need to enhance authentication, fraud prevention, data protection and dispute resolution. They should also clearly convey these protections. The consumer has to be reassured that their data and transactions are secure.

Personalisation needs to be done responsibly and under the user's control. The AI powered financial service should have the relevant features and suggestions (Awal & Haque, 2025). But preferences and data use should be at the user's control. Convenience without privacy concerns should be attained by personalization.

Providers need to be able to minimise perceived risk. They should provide transparent transaction history, secure account recovery, efficient dispute management, and educate users on security measures. When there are problems, consumers should know what to do. Trust can be boosted and fear lessened by visible support.

There is a need for responsible AI governance in financial services, and policymakers should support this. They set out clear rules on data privacy, transparency, accountability and protection for consumers, which can help to cultivate public confidence (Tamanna & Sinha, 2025). It should be regulated to the extent of safeguarding the consumer, but enable innovation.

Mention any limitations that the study presents and any future research that could be conducted.

There are a number of limitations to this study. The first was because it was a cross sectional design. It captured the 'snapshot' of how consumers felt and wanted to behave at a specific moment (Miraz et al., 2024). Longitudinal designs might be utilized in future research to explore changes over time in both trust and usage intention.

The Impact of Artificial Intelligence on Trust and Uninterrupted Usage Intention in AI Financial Service: Evidence from Bangladeshi Consumers

Secondly, the study was restricted to Bangladesh. Results may not be necessarily representative to other countries. Future studies could be done using Bangladesh for comparison with the other emerging markets and developed economies. Comparison of such can demonstrate if there are differences among contexts in trust formation.

Thirdly, selected AI related factors were included in the model. Other factors can be considered in future studies, such as satisfaction, digital literacy, financial literacy, service quality, algorithmic fairness, habit, social influence and regulatory trust (Adznan et al., 2024). These constructs can help to enhance explanatory power.

Fourth, the whole category of AI based financial services was discussed. Specific services can be explored in the future, including AI chatbots, mobile wallets, digital lending, robo advisory services and fraud detection systems. Trust and risk perceptions may be different for different services.

Fifth, self-report data on surveys were utilized (Emon, 2023). In the future, survey results can be coupled with real platform use. This can enhance the comprehension of the relationship between intention and actual actions.

8. CONCLUSION

This study aimed to explore the impact of the artificial intelligence related factors—trust and continuous usage intention in AI based financial service in the Bangladeshi context. The highlighted findings indicate that perceiving higher AI capability, AI transparency and AI personalization, and perceiving security and privacy protection are all associated with greater trust. The higher the perceived risk, the more trust is diminished. High level of trust has a strong positive relationship with continuous intentions to use.

The research also revealed a direct link between perceived AI capability and AI personalization with continuous usage intention. All indirect relationships were mediated by trust. This validates that trust is the most important pathway to continued use – mediated by perceptions of AI related services.

Model quality was good in terms of measurement quality, and moderate in terms of explanatory power, predictive relevance, predictive power and the supplementary fit. The results validate the proposed trust based model.

The results indicate that the design of sustainable AI-based financial services must be trustworthy. These services are more likely to be continued when they are perceived as capable, transparent, personalized, secure, privacy protective, and low risk. This is significant for Bangladesh as digital finance is growing among various consumer segments.

Financial institutions, financial technology providers, and regulators should prioritize trust in the process of developing financial service strategy involving AI. The pursuit of Trustworthy AI is not just a technical goal. It's also a managerial, ethical and consumer protection priority. Other than that, AI-based financial services can be sustainably developed if technology is built in a way that protects consumers, explains the process, personalizes the service and serves consumers in a responsible manner.

REFERENCE

- 1) Adznan, S., Sanusi, S., Zaki, H. O., Raheem, M. M., & Smolo, E. (2024). Islamic Banking and the Fourth Industrial Revolution: The Current Application, Adoption, and Future Challenges of Artificial Intelligence. In E. Smolo & M. M. Raheem (Eds.), *The Future of Islamic Finance* (pp. 207–219). Emerald Publishing Limited. <https://doi.org/10.1108/978-1-83549-906-120241013>
- 2) Ahmed, S., Chowdhury, U. Y., Ashrafi, D. M., Choudhury, M. M., Ahmed, R., & Ahmed, R. (2025). Speak, search, and stay: Determining customers' intentions to use voice-controlled artificial intelligence (AI) for finding suitable hotels and resorts. *Journal of Hospitality and Tourism Insights*, 8(3), 967–987. <https://doi.org/10.1108/JHTI-04-2024-0316>
- 3) Aktar, S., Majedul Huq, S., Kumar, G., Gopal, R., Afroz, S., & Ali, Md. A. (2025). AI-Powered Product Purchase Prediction: A Multi-Modal Deep Learning Approach. *2025 5th International Conference on Emerging Research in Electronics, Computer Science and Technology (ICERECT)*, 1–6. <https://doi.org/10.1109/ICERECT65215.2025.11376166>
- 4) Akter, R., Afrin, N., Mohammad Robiul Islam Fahim, & Umma Salma Hoque. (2025). Readiness to accept Artificial Intelligence (AI): An empirical study on tertiary level students' in Bangladesh. *International Journal of Research in Business and Social Science* (2147- 4478), 14(6), 494–503. <https://doi.org/10.20525/ijrbs.v14i6.4303>
- 5) Alam, M. S., Khan, T.-U.-Z., Dhar, S. S., & Munira, K. S. (2020). HR Professionals' Intention to Adopt and Use of Artificial Intelligence in Recruiting Talents. *Business Perspective Review*, 2(2), 15–30. <https://doi.org/10.38157/business-perspective-review.v2i2.122>
- 6) Almamy, A. S. M., Habib, S., Nasser, L. K., & Hamadneh, N. N. (2026). Effect of Explainable AI Features on User Satisfaction and Purchase Intention in Saudi Mobile Shopping Apps. *Journal of Theoretical and Applied Electronic Commerce Research*, 21(4), 120. <https://doi.org/10.3390/jtaer21040120>

The Impact of Artificial Intelligence on Trust and Uninterrupted Usage Intention in AI Financial Service: Evidence from Bangladeshi Consumers

- 7) Awal, Md. R., & Haque, Md. E. (2025). Revisiting university students' intention to accept AI-Powered chatbot with an integration between TAM and SCT: A south Asian perspective. *Journal of Applied Research in Higher Education*, 17(2), 594–608. <https://doi.org/10.1108/JARHE-11-2023-0514>
- 8) Bansal, C., Pandey, K. K., Goel, R., & Sharma, A. (2026). Driving Continuous Usage Intention of AI Banking Chatbots. *Journal of Computer Information Systems*, 1–21. <https://doi.org/10.1080/08874417.2026.2619940>
- 9) Begum, D., & Elahi, Md. H. (2025). Readiness to adopt artificial intelligence (AI) in libraries: A study from the lens of information professionals of Bangladesh. *Digital Library Perspectives*, 41(4), 666–682. <https://doi.org/10.1108/DLP-10-2024-0150>
- 10) Cavus, N., Mohammed, Y. B., & Yakubu, M. N. (2021). An Artificial Intelligence-Based Model for Prediction of Parameters Affecting Sustainable Growth of Mobile Banking Apps. *Sustainability*, 13(11), 6206. <https://doi.org/10.3390/su13116206>
- 11) Chandra Chanda, R., Vafaei-Zadeh, A., Hanifah, H., Nikbin, D., & Mehrab Ashrafi, D. (2026). Investigating the factors raising customers concern to continue using AI-supported customer care services of banks: A hybrid SEM-ANN approach. *Aslib Journal of Information Management*, 1–46. <https://doi.org/10.1108/AJIM-03-2025-0139>
- 12) Emon, M. M. H. (2023). *Predicting Adoption Intention of ChatGPT- A Study on Business Professionals of Bangladesh*. In Review. <https://doi.org/10.21203/rs.3.rs-3749611/v1>
- 13) Hasnat, M. A., Hasan, K. K., & Khandakar, H. (2025). Intelligent Machines and Organizational Knowledge Transformation in Bangladesh's Islamic Banking Sector: Navigating Innovation and Shariah Compliance. *Journal of Integrated Socio-Economic Systems and Islamic Finance*, 1, 11–28. <https://doi.org/10.65638/2978-8196.2025.01.02>
- 14) Hussain, Z., Mohammad, S. I., Vasudevan, A., Awad, A., Khan, A., & Bansal, R. (2026). Exploring How Customer Experience and AI-Driven Service Innovation Influence Perceived Firm Innovativeness: Digital Trust as a Moderator. *Services Marketing Quarterly*, 1–22. <https://doi.org/10.1080/15332969.2026.2663274>
- 15) Islam, M. A., Rahman, M., Dal Mas, F., Haque, S. E., & Hani, U. (2026). Navigating institutional and capability barriers in agentic artificial intelligence adoption: Evidence from small and medium enterprises in Bangladesh. *VINE Journal of Information and Knowledge Management Systems*, 1–25. <https://doi.org/10.1108/VJIKMS-11-2025-0504>
- 16) Islam, Md. R., Siddika, A., & Shaulin, N. (2025). AI Readiness and Trust in Government: The Context of Bangladesh and India. In E. Ahmed, A. R. Babar, A. Samad, R. I. Ahmed, & G. Beydoun (Eds.), *Advances in Computational Intelligence and Robotics* (pp. 27–58). IGI Global. <https://doi.org/10.4018/979-8-3693-6507-6.ch002>
- 17) Kumkum, S., Tapan Mahmud, Md., Adnan, A., & Hasan, Md. K. (2026). Impact of artificial intelligence on decision-making quality in mobile financial services in Bangladesh: The mediating role of risk mitigation. *Journal of Decision Systems*, 35(1), 2620371. <https://doi.org/10.1080/12460125.2026.2620371>
- 18) Le, X. C. (2025). Determinants of customer willingness toward chatbot-based online banking services: Do perceived values and chatbot characteristics matter? *Asia-Pacific Journal of Business Administration*. <https://doi.org/10.1108/APJBA-10-2024-0555>
- 19) Miraz, M. H., Ya'û, A., Adeyinka-Ojo, S., Sarkar, J. B., Hasan, M. T., Hoque, K., & Jin, H. H. (2024). Intention to use determinants of AI chatbots to improve customer relationship management efficiency. *Cogent Business & Management*, 11(1), 2411445. <https://doi.org/10.1080/23311975.2024.2411445>
- 20) Nahar, N., Tafsirun, U., Tanchangya, T., Siddiqi, K. O., Naher, K., Islam, N., & Hossan, Md. A. (2026). *The Impact of AI Features on Customer Satisfaction and Purchase Intention in the Bangladeshi Food Industry*. In Review. <https://doi.org/10.21203/rs.3.rs-9161042/v1>
- 21) R., N. K., M., J., & R., P. (2026). Assessing the influence of AI adoption and trust on customer satisfaction in digital banking services. *SAM Advanced Management Journal*, 1–19. <https://doi.org/10.1108/SAMAMJ-12-2024-0100>
- 22) Rahman, M. A., Shaon, S. H., & Islam, S. (2025). Trust over ease? Examining the mediated effects of profitability on AI adoption in accounting. *Technological Sustainability*, 4(4), 402–423. <https://doi.org/10.1108/TECHS-05-2025-0098>
- 23) Rahman, M., Ming, T. H., Baigh, T. A., & Sarker, M. (2023). Adoption of artificial intelligence in banking services: An empirical analysis. *International Journal of Emerging Markets*, 18(10), 4270–4300. <https://doi.org/10.1108/IJOEM-06-2020-0724>
- 24) Raihan, S. Md. R., Asad, I., Rahman, K. W., Rahman, Md. A., Banik, S., & Hasan, M. (2025). From Manual Logs to Smart Finance: Assessing User Readiness for Ai-Powered Personal Expense Tracking in Bangladesh. *2025 International Conference on Quantum Photonics, Artificial Intelligence, and Networking (QPAIN)*, 1–6. <https://doi.org/10.1109/QPAIN66474.2025.11171811>

The Impact of Artificial Intelligence on Trust and Uninterrupted Usage Intention in AI Financial Service: Evidence from Bangladeshi Consumers

- 25) Sain, Z., & Adinugraha, H. H. (2025). Artificial Intelligence and Islamic Finance: Enhancing Sharia Compliance and Social Impact in Banking 4.0. *Journal of Business Management and Islamic Banking*, 025–046. <https://doi.org/10.14421/jbmib.2025.0401-03>
- 26) Schrank, J. (2025). The impact of artificial intelligence on behavioral intentions to use mobile banking in the post-COVID-19 era. *Frontiers in Artificial Intelligence*, 8, 1649392. <https://doi.org/10.3389/frai.2025.1649392>
- 27) Sikder, A. S. (2023). Artificial Intelligence-Enabled Transformation in Bangladesh: Overcoming Challenges for Socio-Economic Empowerment.: AI-Driven Transformation in Bangladesh. *International Journal of Imminent Science & Technology*, 1(1), 77–96. <https://doi.org/10.70774/ijist.v1i1.7>
- 28) Talukder, M. B., Akhter, Md. S., Ashraf, A. E., Sarkar, I., Ritu, H. A., & Sawon, Md. M. H. (2026). AI-Based Travel Intelligence Systems: Cybersecurity and Digital Trust in Predictive Tourism. In M. B. Talukder & I. T. Salsabil (Eds.), *Cybersecurity and Digital Trust in Smart and Sustainable Tourism* (pp. 1–30). IGI Global Scientific Publishing. <https://doi.org/10.4018/979-8-2600-1850-7.ch001>
- 29) Tamanna, M., & Sinha, B. (2025). A conceptual analysis of artificial intelligence (AI) on academic opportunities and challenges: A case study based on higher educational institutions in Bangladesh. *Quality Assurance in Education*, 33(2), 218–236. <https://doi.org/10.1108/QAE-03-2024-0050>
- 30) University of Illinois Springfield, Al Mamun, M. R., Ntsweng, O., Arizona State University, David, A., SUNY Oneonta, Baah-Peprah, P., University of Agder, Prybutok, V. R., & University of North Texas. (2025). What Drives User Intention to Continue Using Conversational AI? How Functional and Emotional Values Influence Continuance Intention. *AIS Transactions on Human-Computer Interaction*, 17(1), 1–34. <https://doi.org/10.17705/1thci.00216>



There is an Open Access article, distributed under the term of the Creative Commons Attribution – Non Commercial 4.0 International (CC BY-NC 4.0)

(<https://creativecommons.org/licenses/by-nc/4.0/>), which permits remixing, adapting and building upon the work for non-commercial use, provided the original work is properly cited.