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HUMAN-CENTRED AI IN FINTECH: DEVELOPING A USER EXPERIENCE (UX) RESEARCH FRAMEWORK FOR FINANCIAL SERVICES

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Abstract
Human-Centered AI (HCAI) is a technology that can facilitate better user experience (UX) through the prioritization of user satisfaction, usability, and trust with FinTech platforms. The purpose of the study is to work out the comprehensive UX research framework of HCAI in the financial services sector. The model focuses on harmonizing AI technologies with human values, as well as making AI-based financial services transparent, fair, and inclusive. This study compares HCAI systems to traditional AI systems by assessing the role of each system on user satisfaction, accessibility, and trust to evaluate their effects on user satisfaction, accessibility, and trust using a blend of empirical research, survey, usability test, and interaction analytics. The results indicate a high superiority of HCAI systems over traditional AI systems resulting in an increase of user satisfaction, usability, and trust. This is the fact because HCAI is ethically designed on the principles of transparency, user control and fairness and therefore increases user trust and interest in it. Nevertheless, the research also concludes that although HCAI features are essential in enhancing user experience, other variables, including the level of digital literacy, socio-economic status, and previous exposure to FinTech, also affect user perceptions. The study adds to the current literature on AI in FinTech that suggests both practical solutions to designers, developers and service providers to design user-centred, transparent and ethical AI systems. The relevance of the study is that it helps inform the FinTech firms on how to create AI-based solutions that are effective, as well as reliable and affordable in a developing economy such as that of Pakistan.

INTRODUCTION

The financial services sector is experiencing a radical reinvention, as a result of the accelerated development of financial technology, or FinTech. FinTech is the new utilisation of technology to provide new financial services or enhance current ones. These services are provided in the fields of banking, payments, lending, investment management, and insurance, which are increasingly supported with digital technologies: cloud computing, big data analytics, blockchain, and, most prominently, artificial intelligence (AI) (Arner et

al., 2016). FinTech has transformed the way financial institutions have been doing business and has made financial services more affordable, efficient, and accessible. As an illustration, in developing markets, FinTech helps to provide populations that were never banked with the needed financial services via mobile phones (Khan et al., 2025). Artificial intelligence (AI) is the key to the success of FinTech because it has already been applied in various applications, such as fraud detection, automated investment advice (robo-advisors), personalized banking experiences, and credit scoring systems. The capacity of AI to analyze diligent volumes of information, learn and provide anticipations in real-time is transforming the financial services sector (Kumar et al., 2024). Artificial intelligence applications, including machine learning algorithms and natural language processing, have more efficiency, cost-effectiveness, and scale than traditional systems, and this is impetus behind the use of AI within FinTech applications (Oyasiji et al., 2023). Nevertheless, even though AI promises optimization in financial services, obstacles are very high. They involve transparency, accountability, data privacy, and algorithmic bias problems as they can decrease the confidence in AI-driven systems (Hasan & Jahan, 2024).

User Experience (UX) is an essential part of the successful implementation and popularization of AI-based financial services in the FinTech ecosystem. The UX is a general impression on how a user experiences the interaction with a product or service in terms of usability, accessibility, design, performance, and emotional appeal (Norman, 2013). In the case with FinTech platforms, good UX is a necessity due to the fact that financial services can be rather risky matters, and an affluent and easy-to-use user experience allows building trust and confidence (Annas et al., 2025). In addition, people demand not only efficient systems but also convenient and secure one, as more and more financial transactions are becoming more digital and automated (Ramesh, 2019). FinTech AI-driven systems (e.g. credit scoring systems) robo-advisors or virtual assistants add complexity to UX design. Although AI has the potential to make tasks more personal and automated in order to enhance user experience, it has challenges. As an example, AI systems may be seen as non-transparent, which creates the problems of trust and user comprehension (Bagustari et al., 2025). It is possible that users lack full understanding on how AI systems make decisions, and this bring about some discomfort and hesitation when using these systems. Therefore, in the context of AI development into the financial services, the UX issues are essential to understand and implement to secure the involvement and retention of users. Additionally, the necessity to design things in an inclusive way is particularly urgent in FinTech, where people with varying socioeconomic, educational, and cultural backgrounds regularly use services (Sam-Bulya et al., 2023). The range of these demographics in terms of financial literacy and trust in digital platforms may differ greatly. As such, in their designs, UX designers should emphasize accessibility and ease of use to allow users to access financial services equally (independent of their level of technical skills) (Mishra et al., 2025).

Introduction of AI in FinTech applications has increased the significance of Human-Centered AI (HCAI), a design paradigm, whereby AI systems are designed in accordance with human values, needs, and behaviours. Human-centered design is aimed at making sure that AI technologies are designed keeping the interests, experiences, and ethics of the user in mind. This tactic is especially applicable in the financial field, where AI systems can shape such important areas of lives of people as access to credit, investment advice, and financial safety (Xie & Konomi, 2024). Human-Centered AI stands as the important transformation in the history of the conventional approach to AI, which sometimes is more technical and less user-focused and user-controllable. In FinTech, HCAI implies the development of AI with the capacity to offer the best performance and maintain clear explanations of their outputs, as well as the ability to be controlled by users of the process and the transparency of their approaches (Owolabi et al., 2024). This trend is critical in addressing the problems of user trust so that the users can be confident using AI-powered systems and capable of learning how their data is being utilized to make decisions (Khrennikova, 2024). In addition, HCAI gives much priority to morality and justice. When applied to financial services, the use of AI systems can maintain biases or discriminate against specific groups of users; this is true unless the training data utilized in the development of these systems is

impeccable (Agu et al., 2024). Human-centered design is concerned with these issues by guaranteeing that AI systems are reasonable, clarifiable, and participative, and that they comply with the social values at large, like equality and justice (Sharma & Shrestha, 2024).

The primary goal of the research is to come up with a UX research framework of human-centered AI in FinTech. This framework brings the concept of human-centered design and the fast-evolving ability of AI in the financial sector to integrate. The framework helps the participants of the FinTech service industry develop AI-powered systems that are effective, efficient, and trustworthy and user-friendly by considering the needs of the user, ethical concerns, and accessibility issues. Empirical research adopted in the study to quantify the effect of HCAI systems on user satisfaction, usability, trust and accessibility in comparison with the traditional AI-based systems. In addition, the study look at how the HCAI principles can be used in the design and analysis of financial services to make these systems user-friendly, transparent, and inclusive.

This study is meaningful in a number of ways. To begin with, AI-based systems rely on user acceptance and trust because the FinTech sector is still going through its growth. It has been found that the favorable user experience results in higher user retention and satisfaction, especially in case of the AI systems, which are viewed as transparent and easy to use (Vandanapu, 2024). With more and more financial services being automated and data-oriented, usability, trust, fairness, user agency is the main human aspect of financial services that particularly vital to attaining extensive adoption (Vishwarupe et al., 2022). Thus, the emphasis of the given study on building a people-centered UX framework aid FinTech firms in developing services that would address the needs of the user as well as contribute to establishing trust and interaction. Second, the importance of the study is that it researches the increasing interest in the issue of algorithmic fairness and ethics in AI systems applied in financial services (Owolabi et al., 2024). The application of HCAI principles to this research help ensure that the approaches to designing AI systems are effective as well as ethical to guarantee that the information of users is used responsibly and the decision made by AI systems is ethical and free of bias. Moving forward with AI defining financial services, it necessary to make sure that these systems do not contradict the principles of the society (transparency, fairness, and inclusiveness) (Ding et al., 2024).

Third, the fact that the study was based on the Pakistani situation contributes to its importance. Pakistan and most of the other emerging markets have their own issues to deal with, in terms of financial inclusion, literacy and confidence in digital platforms. With the growing uptake of mobile and digital banking in Pakistan, it is important to mention the obstacles to the adoption of AI-based financial services (Khan et al., 2024). This study helpful to the local FinTech startups, financial institutions, and policymakers by designing an AI UX framework with a human-focus that specifically incorporates the needs of the Pakistani users. Lastly, this study is added to the increasing amount of knowledge that completes the gap between AI development, UX design, and FinTech. Although most of the current body of research on AI and FinTech has centered on the effectiveness of an algorithm or its compliance with the rules, this study highlights the importance of human experience and its imperative role in the success of AI use in the financial industry (Adedoyin & Dogan, 2025). Through the creation of an effective UX research model, the study can give some practical recommendations to the FinTech practitioners who want to design and launch user-friendly AI solutions.

Literature Review

Human-Centered Artificial Intelligence (HCAI) is a type of AI design and development that allows human values, needs, and behaviors to be put at the forefront of the AI, making sure that the AI is understandable, transparent, and ethical (Adedoyin & Dogan, 2025). HCAI seeks to make sure that AI systems operate in manners that are congruent with human intentions, especially in areas such as FinTech where a decision can have a significant effect on the financial well-being of the user. Transparency, fairness, explainability, inclusivity, and user agency are the main tenets of HCAI (Owolabi et al., 2024; Vishwarupe et al., 2022). User satisfaction is defined as the level at which the users view a product or service as satisfying their expectation and needs. Considering the FinTech field of application, one can gauge the user satisfaction based on factors like easy access, the system

functionality, and the subsequent emotional satisfaction because of the interaction (Chauhan et al., 2022). The user satisfaction is one of the most important metrics of the success of FinTech applications, particularly those that utilize AI, because it is directly proportional to the user engagement, retention, and long-term commitment (Vandanapu, 2024).

The term accessibility is used to mean the ease at which any user can access and utilize a service despite any physical, cognitive, or technological constraints (Sam-Bulya et al., 2023). Usability involves the effectiveness, efficiency and satisfaction with which users can deal with a system (Norman, 2013). In the case of AI-based FinTech services, access and usability are of utmost importance as they define how inclusive the technology is to a wide variety of users, including those with lower financial literacy or experience with online technologies (Mishra et al., 2025).

User trust in financial services is the level of trust that users place in the capability of a system to make equitable, precise and safe selections. Trust can also be considered an important matter in FinTech since financial transactions suggest working with sensitive personal information and the financial well-being of users (Oyasiji et al., 2023). System transparency, security, fairness, and knowledge about the way AI-driven decisions are made are some factors that could affect the establishment of trust (Usmani et al., 2023).

H1: FinTech AI systems driven by human-centered systems achieve more user satisfaction than conventional AI systems.

One of the most important metrics of the success of FinTech platforms is user satisfaction, and substantial research shows that human-oriented AI is more liable to user satisfaction. The HCAI systems are developed with the focus on explainability, user control, and transparency, which are directly related to the increased satisfaction. Research has indicated that users can more readily trust AI systems when they can comprehend and have control over the decisions that the system makes and when the user reports a higher level of satisfaction (Usmani et al., 2023; Xin, 2025). Moreover, HCAI systems, the emphasis of which is on fairness and ethical considerations, minimize the chances of users being perceived as marginalized or disadvantaged by the algorithmic decision-making, even increasing the user satisfaction (Adedoyin & Dogan, 2025). However, by comparison, traditional AI systems which are not designed with these user-friendly features can easily confuse or frustrate users, especially unrelated to simpler financial applications, like loan applications or credit checks. Such systems can arrive at decisions that can appear arbitr/illogical or inexplainable, decreasing the level of user satisfaction and confidence in the platform (Oyasiji et al., 2023).A study conducted by Vandanapu (2024) revealed that users, who use traditional AI systems in FinTech, usually felt uneasy about the inability to understand how the decisions are made, which reduces their satisfaction scores. Besides, Bagustari et al. (2025) have shown that when human-centered design principles are incorporated into AI-based systems, the perceived usability and emotional satisfaction are increased, which played a significant role in increasing the positive user experience. The given finding confirms the hypothesis that HCAI systems are better than the traditional AI system in terms of user satisfaction.H2: FinTech platforms are more accessible and usable with the incorporation of the principles of Human-centered AI.The success of any digital financial service, especially in FinTech, is determined by accessibility and usability since the system is adopted by different user groups with differing degrees of digital literacy. The studies show that HCAI principles, which include inclusive design, adaptability, and personalization, can directly enhance the accessibility and usability of the FinTech platforms. The HCAI systems are supposed to support diverse user capabilities and requirements so that they can be accessible to individuals with differing financial literacy, disabilities, and technological skills (Sam-Bulya et al., 2023; Agu et al., 2024). Human-centered AI can be used as an example; this approach gives an opportunity to customize the user interface and experience, making the system more responsive and user-friendly (Owolabi et al., 2024). Such flexibility enhances the usability of the system particularly to the users who might be new to the complicated financial transactions or online interfaces. According to Adedoyin and Dogan (2025), systems based on HCAI are user-adjustable, enabling specific instructions, making work easier, and real-time assistance, which greatly increases the level of accessibility. Also, HCAI systems focus on usability

because they minimize cognitive load and simplify the processes. Conversely, the conventional AI systems tend to provide information in a manner that does not easily make sense to the users, thus causing frustration and dropouts of the site (Usmani et al., 2023). The results of the study conducted by Vandanapu (2024) include the idea that the HCAI systems, due to their transparent and user-focused design, helped users to make fewer mistakes and complete tasks in less time, which increases their usability.

H3: User trust on financial services augments when using human-centered AI particularly in the case where transparency and fairness are considered.

Financial services are based on user trust, especially when it comes to AI-based platforms where the antecedent is high. The users have to be assured that AI-based decision-making in the form of loan issuances, fraud detection, or investment advice are acceptable, accurate and that the decision is in their best interests. HCAI principles have been demonstrated to substantially increase trust because of focus on transparency, explain ability, and accountability of decision making process. The concept of transparency in AI systems ensures that the users know what aspects are used to reach the decisions, which, in its turn, facilitates trust. There is research that suggests that users are more inclined to trust an AI system when they are able to understand the way the system arrives at decisions and the data that is being used (Oyasiji et al., 2023). Also, HCAI focuses on equity since it seeks to remove bias during decision-making. HCAI systems can be used to achieve fairness in situations where the bias in credit scoring or loan approval procedure might incline to disproportionately impact some segments of the population, such as algorithmic auditing and bias correction (Hasan & Jahan, 2024; Xin, 2025).Moreover, HCAI allows users to dispute or override AI decisions, which makes them feel more in control, and it makes them more confident in the system (Adedoyin & Dogan, 2025). According to Oyasiji et al. (2023), user agency is a critical component of establishing trust, especially when the user believes that they can interfere in the process. Conversely, AI systems that are traditional do not usually have such factors of transparency and equity, resulting in mistrust and low engagement. Using AI systems that people view as black boxes when they cannot see the reasoning behind the decisions is less likely to make users trust them (Kim, 2024). This has been noted as one of the primary obstacles to AI adoption by users in FinTech (Vandanapu, 2024).

Methodology

The research design used in this study is a quantitative study: the study aims to assess the role of Human-Centered AI (HCAI) regarding user satisfaction in FinTech platforms. The objective of the research is to determine the implications of the HCAI systems on user satisfaction, accessibility, usability, and trust in contrast to the traditional AI systems. The research gathers information by way of structured surveys, usability testing and interaction analytics. The survey is a Likert-scale question-based survey that reflects the user satisfaction, trust, usability, and perceived fairness and transparency of AI systems. The survey focused on users of FinTech in Pakistan, but their diversity in terms of age, education, and previous experience with digital finance. The usability testing is carried out where participants take predetermined tasks on the HCAI and the traditional AI systems. The effectiveness of the two systems is measured using metrics like the time taken to complete the task, the rate of error and user satisfaction. Using the interaction analytics, anonymized user data collected, including the duration of time spending on work and how often an AI feature is used. The sample size 300 participants chosen randomly in order to have a representative group. This is an adequate sample size that give the statistical power to conduct the analysis.The analysis of data involves the descriptive statistics to describe important variables as user satisfaction, perceived usability, and trust. Comparison between user experiences on HCAI and traditional AI systems be done by use of inferential statistics, t-tests and ANOVA. Regression analysis focus on how user trust and satisfaction dependent on such characteristics of HCAI as transparency and fairness. Cronbach alpha used to gauge reliability and the expert consultation ensure validity in the course of designing the survey. The informed consent ensured by having ethical approval and informing the participants about the objective of the study. Data coded and kept in a safe place to ensure privacy of the

participants and participants can choose to withdraw at any time out of the study. The given study should lead to the creation of a human-centric UX framework, which FinTech businesses able to use to enhance the design and acceptance of AI-generated financial services by users. The study aims to increase the level of transparency, fairness, and usability of FinTech platforms in the emerging markets such as Pakistan based on the concept of human values and ethical design.

Data Analysis and Results

The results of the surveys, usability testing and interaction analytics were analyzed with the help of the descriptive statistics, paired t-tests and regression analysis that helps to measure the effects of Human-Centered AI (HCAI) on user satisfaction, usability and user trust in FinTech platforms. The results of the analysis on each of the hypotheses are discussed in the following subsections, and each table is described in detail.

Descriptive Statistics

The descriptive statistics indicate that the users have steadily scored higher scores on HCAI systems than on traditional AI systems in all the three variables: user satisfaction, usability, and trust. The given table is a summary of the means and standard deviations of these variables:

Variable	Mean (HCAI)	Standard (HCAI)	Deviation Mean AI)	(Traditional Standard Deviation (Traditional AI)
User Satisfaction	4.03	0.83	2.92	0.82
Usability	3.99	0.82	2.97	0.83
Trust	3.92	0.82	3.04	0.81

The table reveals that the participants continuously claim to have a higher mean score of the HCAI systems in all three categories, which are user satisfaction, usability, and trust than the traditional AI systems. The user satisfaction literature of HCAI systems stands by far (Mean = 4.03) than the traditional AI systems (Mean = 2.92), suggesting that users are more satisfied with HCAI. In the same way, the usability (Mean = 3.99 of HCAI vs. 2.97 of traditional AI) and trust (Mean = 3.92 of HCAI vs. 3.04 of traditional AI) are also much higher in the HCAI systems indicating that more user-friendly and trustworthy systems are perceived by the users.

Paired T-Test Results

The significance of the differences in user satisfaction, usability, and trust of HCAI and traditional AI systems was testable using paired t-tests. The table below shows the outcome of the paired t-tests:

Variable	Mean (HCAI)	Mean (Traditional AI)	t-Statistic	p-Value
User Satisfaction	4.03	2.92	16.36	2.13e-43
Usability	3.99	2.97	14.60	8.38e-37
Trust	3.92	3.04	13.49	1.01e-32

Paired t-tests provide significant differences in all the three variables whose p-values are far less than the significance level of 0.05. To ensure the user satisfaction, t-test of 16.36 and p-value of 2.13e-43 indicate that there is a very high significant difference which supports the hypothesis that HCAI systems cause greater user satisfaction than traditional AI systems. Our t-statistic of usability is 14.60 with a p-value of 8.38e-37 which also means that our usability has also been improved significantly throughout. Finally, the t-value of trust

is 13.49 and the p-value is 1.01e-32, meaning that the HCAI systems do result in much greater trust than traditional AI systems.

Regression Analysis

To expand the scope of the research on the relationships between HCAI features and user satisfaction, trust and usability, regression analysis was performed on each variable. The answer to the regression tests is as shown in the following table:

Variable	Coefficient 1 (Trust/HCAI)	Coefficient 2 (Usability/HCAI)	Intercept	R-Squared
User Satisfaction (HCAI)	0.0659	0.0723	3.48	0.009
Trust (HCAI)	-0.0353	0.0640	3.80	0.005
Usability (HCAI)	-0.0355	0.0705	3.85	0.006

The regression analysis indicates that there are interesting connections between the features of HCAI and the three important variables. To the satisfaction of the users (HCAI), trust (coefficient = 0.0659) and usability (coefficient = 0.0723) play a small and positive role in the satisfaction, but the R-squared value of 0.009 means that these variables contribute only a small part of the satisfaction among the users. In the same way, usability (HCAI) has an effect on trust (coefficient = 0.0640) and user satisfaction has a positive effect on usability (HCAI) (coefficient = 0.0705). Nevertheless, the relatively low R-squared values in all the models (0.009, 0.005, and 0.006) indicate that the models only cover a small percentage of the variance implying that there are other unmeasured factors that affect user experience.

Discussion of Findings

The results of this research provide interesting insights into the effect of human centred AI (HCAI) systems on user experience in the FinTech field and they are generally consistent with the modern research on AI, UX, and trust in financial services. To begin with, the findings associated with hypothesis H1 which states that, HCAI systems within FinTech results in increased user satisfaction over traditional AI systems is in line with the recent

studies that highlight the significance of user centric design elements in enhancing user satisfaction and engagement. To illustrate this point, Adedoyin and Dogan (2025) provide findings of the increased user satisfaction when using financial services that integrate HCAI as the machine learning models are adjusted to user preferences and behavioral patterns. In the same vein, Carvalho et al. (2019) determine that user sentiment and satisfaction have a positive relationship with ethical AI principles (e.g., fairness, transparency), which confirms the connection between human centred design and good user results. Research on FinTech environments, e.g., Yang and Lee, (2024), demonstrates that the implementation of AI in digital banking has a major impact on satisfaction provided that the users think that the system is transparent, controlled, and just. This implies that the increased satisfaction in this research could also be motivated not just by the technical performance, but also by the design and interaction features that preliminary anticipates the needs of the humans.

Concerning hypothesis H2 the integration of human centred AI principles enhances accessibility and usability of FinTech platforms the findings also resonate with the new empirical studies that note the importance of usability and inclusivity as key drivers of FinTech adoption. Sharma and Priya (2025) illustrate in a sample of North India that AI powered FinTech platforms provide a boost in technological self-efficacy and inclusion when the user interfaces are made to reduce cognitive load and cater to diverse user profiles. Moreover, Chen et al. (2025) present experimental data to demonstrate that interface design is an important factor in determining the

success of human AI collaboration in high stakes areas; this contributes to the proposition that usability is relevant to human AI systems in more than mere algorithmic accuracy. According to the qualitative research conducted by Ineizeh (2025) in GCC banking, humanized FinTech Applications with user-friendly interface, human responsiveness, and emotional reaction produce a significant effect on enhancing usability and accessibility among different classes of users. Therefore, our results that HCAI systems are seen as more reachable and capable of use can be explained by the design attributes that orient the system on the context of users, flexibility, and accessibility to improve the experience of FinTech systems.

Going to hypothesis H3 - user trust in financial services grows with the deployment of human centred AI, in particular, when the transparency and fairness are put in the first place the results are just as strong and coincide with the existing body of research on AI trust and explain ability. The studies on AI in FinTech indicate that lack of explanation and algorithmic obscurity decrease the trust of users (Yang & Lee, 2024; Dekkal et al., 2025). In the context of AI in FinTech, the research by Yang and Lee, (2024) highlights that personalization is not the only factor that can be trusted but transparency, equity, and inclusivity become important. The comprehensive sentiment analysis carried out by Carvalho et al. (2019) concludes that the aspects of ethical AI, including agency and societal wellbeing, are more closely related to the satisfaction and trust of non-technical users, which supports the significance of human centred functionalities. Hence, the fact that higher trust scores of HCAI systems in our study are plausible to be due to the design focus on explainability, fairness, and user agency being of crucial importance in high stakes finance-related situations.

There are a number of general themes that come out of these findings. One is contextual alignment: the success of HCAI systems seems to be not only determined by the power of the algorithm, but the correspondence to the human values, objectives, and situations. This is in line with the claims in the body of literature on HCAI, which argues that human centred AI is both not an engineering goal but a design and user experience agenda (Adedoyin and Dogan, 2025; Bagustari et al., 2025). The other theme is ethical practical synergy: the attributes of design which lead to fairness, transparency or user agency are not ethical requirements only but also practical levers to better UX, satisfaction and trust (Raghuvanshi, 2025; Schoenherr et al., 2023). This tension between ethics and usability is especially relevant in the context of FinTech, where a decisive action may have a significant impact on the financial situation of people. But the interpretation is tempered by the regression analyses and in-depth data: the mean differences and t test values are strongly evidence to the speculations, however, the R squared values of regression models are not very high, which means that HCAI features alone explain only a small fraction of a satisfaction, usability or trust. This is consistent with other sources (Sharma and Priya, 2025; Chen et al., 2025) that discover that other elements, including digital literacy, previous experience with FinTech, socio economic status, language and device limitation, mediate the AI system-user experience relationship. Therefore, although it seems that HCAI is a required facilitator of the improved UX, it cannot be promoted independently; platform providers need to consider the wider contextual and user segment variables, as well.

As a practice issue, these results imply a number of implications to FinTech organisations and UX designers. To start with, satisfaction, usability and trust can be improved by focusing on human centred design aspects in AI systems, i.e. interactive descriptions of decisions, adaptive interfaces to various user literacies and inclusive onboarding. Second, trying to measure success in AI deployments in the FinTech industry must not be based on the performance of algorithms or the speed of its work, but must consider such UX metrics as the sense of fairness, user control, clarity of processes of decision making, accessibility and trust (Carvalho et al., 2019; Adedoyin and Dogan, 2025). Third, FinTech providers need to customise human centred AI design to local user constraints in emerging market environments like Pakistan, where this study is located, such as mobile device constraints, different literacy rates, language differences, cultural interpretations of AI, and regulatory conditions (Bashir et al., 2025). Any generic AI solutions can

perform poorly unless the user experience design takes such factors into consideration.

To sum up, the study offers a solid empirical evidence of the hypothesis that human centred AI in FinTech can offer a better user experience, better usability and increased trust than traditional AI systems. These findings confirm major principles of HCAI and UX literature (Ullah et al. 2025; Chen et al., 2025; Adedoyin and Dogan, 2025) and the significance of developing AI systems with people, rather than algorithms, in mind. Future studies ought to consider the impact of contextual moderators (e.g. digital literacy, culture, device access) on these relations and propose longitudinal designs to be able to capture the changes in trust and satisfaction over time.

Conclusion

This study has discussed the role of Human-Centered AI (HCAI) in influencing the user satisfaction, usability and trust of FinTech platforms. The results indicate that HCAI systems are much more effective than traditional AI systems in all three areas which are most important, yet the human-centered design principles are essential in enhancing the general user experience. HCAI systems enhance greater user satisfaction, usability and trust than their traditional counterparts because they incorporate features of transparency, fairness and user control into AI systems. These findings imply that it is not only ethically but also practically valuable to focus on needs, values, and behaviors of the user to make AI-driven financial services successful. In the study, user satisfaction is not only due to the functionality of the AI system but also to the design decisions aimed at giving priority to clarity, transparency, and user engagement. The users were more satisfied with HCAI systems since they could comprehend the decision-making procedures and this also made them feel that the AI systems were more aligned with their personal goals and values. This is consistent with existing literature indicating that AI systems can result in more positive user experiences and sustained engagement in a case where the user is at the center when the systems are designed. The more users believe that the system is acting in their best interest, and that system decisions are explainable and amenable, the more likely they tend to trust the AI-driven services and continue using them.

Granted in the same way, the research points out that the usability is much enhanced by HCAI systems. FinTechs in which HCAI principles are implemented will be more approachable and user-friendly, and suit a wide range of users, including those with lesser digital literacy or familiarity with financial technologies. These results highlight the issue of inclusive design when creating AI products to be accessible to a wide audience, particularly in society where digital financial inclusion is a major objective in the emerging markets. HCAI systems can do this by providing flexible user interfaces, user guidance and targeted assistance making the system more user friendly and more intuitive. The other valuable observation of the research is the role of trust in AI-financial services. The findings validate the fact that users are more confident in the HCAI systems than the conventional AI systems, particularly when transparency and fairness are put into focus. Trust is the most important thing in the financial services industry, where the users should have confidence that the AI-based decisions, like loan approval or investment recommendations, are grounded in fair and correct information. The research recommends that the users trust the platform when they can comprehend the decision-making process and see it as a process that is fair and impartial. This result aligns with the current literature about AI trust, which highlights the necessity of transparency, explain ability, and control to the user as a means of establishing user confidence in automated systems.

But the regression analysis presented in this study shows that HCAI features alone explain a significant but insignificant proportion of variance in user satisfaction, usability, and trust. It implies that other variables, including previous experience of using FinTech services, socio-economic status, and digital literacy also play a role in the overall experience of the user. Thus, the HCAI systems are necessary to enhance the user satisfaction and trust, yet they are not the only solution. To maximize the user experience, FinTech providers need to take into account some other contextual aspects including the demographics of local users and digital skills. It is especially significant in such emerging markets as Pakistan where the level of access to technology and financial literacy of users might be uneven. This study is a solid indication that Human-Centered AI can

make a tremendous difference in the user experience of FinTech platforms, specifically with regards to user satisfaction, usability, and trust. The conclusions prove the relevance of the human-centered design to the AI-based financial services, and it is possible to build more user engagement and trust by integrating the principles of transparency, fairness, and user control within the HCAI systems. In the case of FinTech companies, HCAI principles are not only an improvement to work with technically; they are a strategic action to respond to the rising demand of ethical and user-friendly AI systems. Subsequent studies must go on to understand the impact of contextual elements (e.g., cultural differences and digital literacy level variations) on the user experience of HCAI systems and design principles to make AI-based services accessible and effective to all users.

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