

Review Article

Study of AI and Data Analysis in Digital Lending Apps

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I N F O

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A B S T R A C T

The digital lending industry has experienced exponential growth, driven by the increasing demand for faster and more accessible financial solutions. Artificial Intelligence (AI) and Data Analytics play a transformative role in modernising traditional lending practices, fostering efficiency, accuracy, and customer-centric services. This paper explores the application of AI and data analytics in digital lending, focusing on areas such as credit assessment, fraud detection, and operational optimisation. The findings highlight the critical role these technologies play in driving innovation while addressing challenges like data security and algorithmic bias.

The rapid proliferation of digital lending apps has transformed the financial services landscape, offering consumers faster, more accessible, and paperless credit solutions. This study investigates consumer perception of digital lending apps, focusing on factors such as trust, convenience, security, transparency, and user experience. By analysing survey data from diverse demographics, the research identifies key drivers influencing adoption and satisfaction, alongside barriers such as data privacy concerns and hidden charges. The findings provide insights into consumer preferences and apprehensions, offering valuable recommendations for app developers and policymakers to enhance user trust and optimise the digital lending experience.

Keywords: Digital Lending , AI , Data Analysis , Information Technology, Consumers

Introduction

Digital lending represents a shift from conventional lending mechanisms to technology-driven platforms. These platforms leverage cutting-edge tools to cater to a wider audience, reduce processing times, and enhance user experiences. Central to this transformation are AI and Data Analytics, which enable lenders to process large volumes of data effectively, offering precise insights into borrower behaviour and creditworthiness.¹⁻⁷

Digital lending is a process that allows consumers to obtain credit online. It is becoming increasingly popular among

new-age lenders due to the widespread availability of smartphones, expanded credit options, and speed of online transactions. It can be attributed to increasing smartphone penetration, credit range flexibility, and speedy online transactions that digital lending has grown significantly among new-age lenders. By using technology for authentication and credit assessment, digital lending enables lending via web platforms and mobile apps. India's digital lending market has grown significantly over the years. The value of digital lending increased from USD 33 billion in FY15 to USD 57 billion in FY16. Innovations in digital lending are enabling financial service providers (FSPs) to offer better

products to more underserved clients in a faster, more cost-effective, and engaging manner. Governments are increasingly promoting the use of digital lending to expand access to credit.⁸⁻¹²

Digital lending isn't just doing the same thing better but rather creating something new. It implies an end-to-end process of developing and delivering data-driven financial products that are applied for, disbursed, and managed through digital channels. Digital lending is starting to emerge as a new alternative to traditional lending due to its cost-effective, less time-consuming, and inclusive approaches. Digital lending is an alternative to traditional lending because even the financially excluded people can access digital lending firms to avail loans, and digital lending firms provide loans, mostly small and medium ticket loans, to such excluded people and their organisations using alternative credit scoring methodology.^{12,13}

Aims and Objectives

The research objective is a clear, concise declarative statement that provides direction to investigate the variables under the study. The objective of the research project summarises what is to be achieved by the study. The objects of the present study are as follows:

- To study how AI and data analysis help in digital lending.
- To study people's knowledge about digital lending.
- To study the perception of people about digital lending apps.
- To study attributes of a customer, keep in mind while applying for a loan digitally
- To study how people are adopting the digital lending process
- To study the challenges faced by people in the digital lending process

Review of Literature

The review of literature is one of the essential parts of the research. A literature review is a body of text that aims to review the critical points of current knowledge, including the findings as well as methodological approaches, on a particular topic. A well-structured literature review is characterised by a flow of ideas, current and relevant references with a consistent, unbiased and comprehensive view of research and research gap on the topic.^{14,15}

A review of related literature acquaints of the researcher with the current knowledge and up-to-date information about what has been thought and done in the area of researcher's choice. Reviewing past research helps, besides demarking the limitations of the work done, in classifying the concept and formulating the methodology of the study. So, an attempt has been made to review various research related to the topic that has been carried out in the past.

The most important reason for reviewing the literature is to know about the recommendations of the previous research. The basic purpose of this section is to review the theories and concepts that will help the researcher find the basis of the present study. The present study, "Study of AI and Data Analytics in Digital Lending." is an attempt to study the consumer perception towards digital lending apps and challenges faced by them during the lending process.¹³⁻¹⁷

The review of related studies involves the systematic identification, location and analysis of documents containing information related to the research problem. It is an account of what has been published on a topic by accredited scholars and researchers. Familiarity with the literature in any problem area helps one to discover what is already known, what others have attempted to find out, what methods have been used and what problems are yet to be solved.¹⁸⁻²⁴

Review related to consumer perception

It was observed that a whole lot of research has already gone into 'Digital lending' both at a local level and a global level. A brief of some of the earlier research studies are given below.

A number of studies have been conducted in India and abroad on various aspects of banking, especially retail-banking. Some worthwhile studies relating to the present topic are reviewed here.

Methodology

This study employs a mixed-method approach to explore AI and data analytics in digital lending, combining both quantitative and qualitative research methods.

- **Research Design:** A descriptive research design is adopted to systematically gather and analyse data regarding consumer behaviour, preferences, and concerns associated with digital lending apps.
- **Sample Size:** The sample size is described as the total number of respondents selected from the population under study. It is an important part of any research in which the aim is to draw inferences regarding a population from a sample. Hence, to be a representative sample, it must be sufficiently large. The data is collected only from Virar. The data is collected from 93 respondents.

The population of the study consists of various age groups, from below 18 years to 60 and above. The respondents consist of all types of customers, such as students, employed, unemployed, retired, all are considered for the study. For the purpose of data, a collection questionnaire was prepared. A questionnaire was distributed to all 93 respondents. All of them were duly filled with adequate information and were considered for the study.

Data Collection : The emphasis of this study is to understand the perception and engagement level of the audience towards digital lending apps.

Data collection is a systematic method for collecting and measuring information from multiple sources to get a comprehensive and accurate description of the study. Accurate data collection is important for preserving the integrity of research, making informed decisions, and ensuring quality assurance. The present study is based on both primary and secondary data. Primary data for the study is collected through a structured questionnaire. The questionnaire consists of multiple-choice questions or point scale questions and dichotomous questions. For secondary data, different national and international journals, annual reports of various institutions, PDFs, textbooks, magazines, newspapers and websites and published reports have been referred to. Online databases were also used for the purpose of secondary data collection. The questionnaire could manage to have 93 respondents.

Result and Discussions

Analysis of data is defined as the act of transforming data with the aim of extracting useful information and facilitating conclusions. Depending on the type of data and the questions, statistical methods are applied.

The analysis involves studying the relationships or spotting out the differences which may support or conflict with the original or new hypothesis in order to study the validity of data to draw conclusions. Analysis particularly in the case of surveys, involves estimating the values of unknown parameters of the population and testing hypotheses for drawing inferences. The analysis therefore may be categorised as descriptive analysis and inferential analysis.

From figure 1. information it is observed that 2.2% of respondents are below 18 years of age, 77.40% of respondents are from 18 to 25 years of age, 16.1% of respondents are from 25-45 years of age, 4.3% of respondents are from 45 to 60 years of age, and there are no respondents above 60 years of age.

From figure 2. information, it is observed that 69.9% of respondents are students, 23.7% of respondents are employed, 2.2% of respondents are unemployed, 4.3% of respondents are from other categories and no respondents are from the retired category.

From figure 3. above information, it is observed that 81.70% of respondents use their mobile for banking transactions, and 18.30% of respondents don't use their mobile for banking transactions.

From figure 4. above information, it is observed that 81.70% of respondents know about digital lending, and 31.20% of respondents don't know about digital lending.

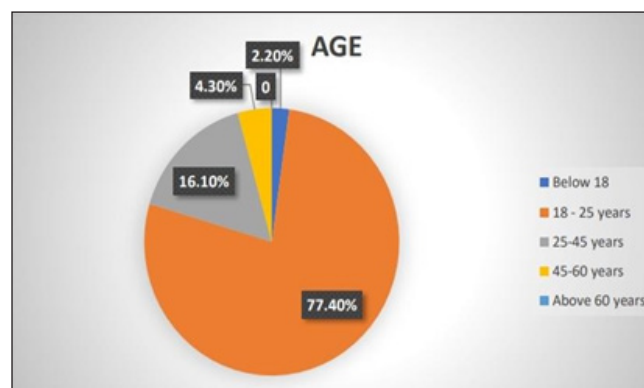


Figure 1. Graph Showing Age of Respondents

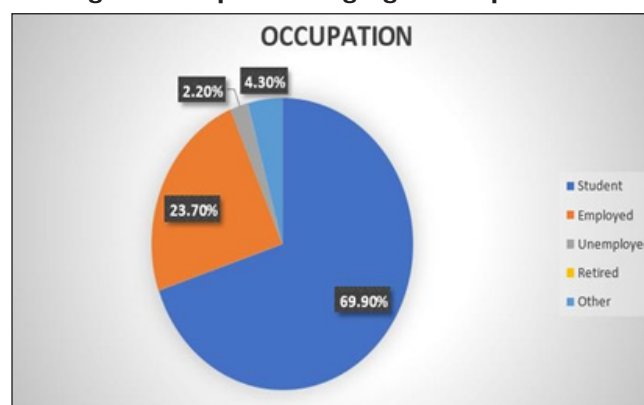


Figure 2. Graph Showing Occupation of Respondents

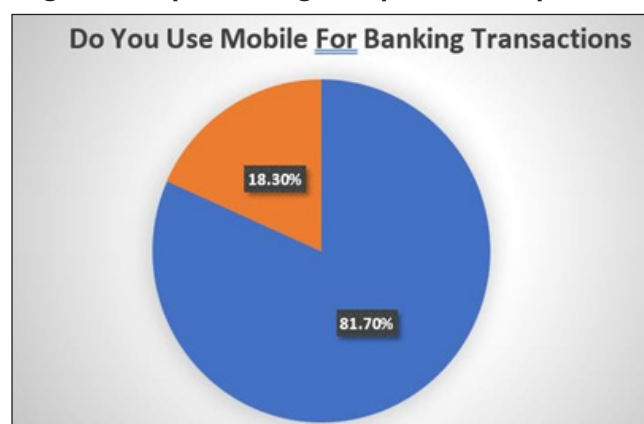


Figure 3. Mobile Usage for Banking Transactions

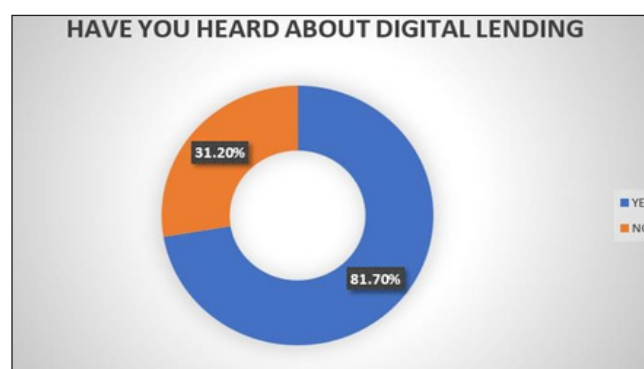


Figure 4. Awareness of Digital Lending

From figure 5. above information, it is observed that 14 respondents are concerned little, 35 respondents are concerned somewhat, 41 respondents are concerned a lot and 3 respondents are not at all concerned about data privacy. 28 respondents are concerned little, 42 respondents are concerned somewhat, 19 respondents are concerned a lot and 4 respondents are not at all concerned about poor connection. 16 respondents are concerned little, 27 respondents are concerned somewhat, 43 respondents are concerned a lot and 7 respondents are not at all concerned about phishing scams. 18 respondents are concerned little, 35 respondents are concerned somewhat, 34 respondents are concerned a lot and 6 respondents are not at all concerned about terms and conditions of a particular app. 24 respondents are concerned little, 41 respondents are concerned somewhat, 21 respondents are concerned a lot and 7 respondents are not at all concerned about offline interaction with lenders.

From figure 6. above information, it is observed that 66.7% of respondents believe in the quickening of the approval and disbursal process, 57% of respondents believe in quicker decision-making, 54.8% of respondents believe in easy capture of information, 44.1% believe in ideal in cases in emergency, 30.1% of respondents believe that offers transparency benefit consumers in taking loans digitally.

From figure 7. above information it is observed that 37 respondents think it is most important, 41 respondents think it is slightly important, 14 respondents think it is least an important, and 1 respondent think that it is not at all an important feature to "ability to lock in a rate." 45 respondents think that is most important, 44 respondents think that it is slightly important, 1 respondent think it is least important, but 3 respondents think it is not at all an important feature to compare loan products and rates. 50 respondents think it is most important and 38 respondents think it is slightly important. 3 respondents think it is least important, and 2 respondents think it is not at all an important feature of the loan calculator. 54 respondents think it is most important, 29 respondents think it is slightly important, 8 respondents think it is least important, and 2 respondents think it is not at all an important feature of tracking status. 64 respondents think it is most important, 23 respondents think it is slightly important, 4 respondents think it is least important, and 2 respondents think it is not at all an important feature of data verification. 42 respondents think it is most important, 40 respondents think it is slightly important, 8 respondents think it is least important, and three respondents think it is not at all an important feature of personal consultation. 34 respondents think it is most important, and 45 respondents think it is slightly important. 12 respondents think it is least important, and 2 respondents think it is not that important of a feature

to chat with text or calls with a lender. From the above information, it is observed that 12.9% of respondents would mostly prefer digital platforms, 34.4% of respondents would be neutral and 12.9% of respondents would least prefer digital platforms.

From fig 8. above information, it is observed 38 respondents strongly agree, 36 respondents just agree, 18 respondents are neutral and 2 respondents strongly disagree with the first statement. 51 respondents strongly agree, 33 respondents just agree, 12 respondents are neutral, 1 respondent disagrees, and 1 respondent strongly disagrees with the second statement. 16 respondents strongly agree, 45 respondents just agree, 32 respondents are neutral, 2 respondents disagree and 2 respondents strongly disagree with the third statement. 31 respondents strongly agree, 38 respondents just agree, 20 respondents are neutral, 6 respondents disagree and 2 respondents strongly disagree with the fourth statement. 52 respondents strongly agree, 26 respondents just agree, 12 respondents are neutral, 1 respondent disagrees and 3 respondents strongly disagree with the fifth statement; 24 respondents strongly agree, 43 respondents just agree, 19 respondents are neutral, 4 respondents disagree and 3 respondents strongly disagree with the sixth statement.

From figure 9. above information, it is observed that 31.2% of respondents have no barriers, 43% of respondents don't trust online platforms, 41.9% of respondents don't have secure platform, 23.7% of respondents don't like to enter data digitally, 15.1% of respondents find technology difficult, 8.6% of respondents are inconvenient. The survey results shown in figure 10. indicate that respondents are generally familiar with the use of AI and data analytics in financial services. A substantial 72% of participants rated their familiarity as high (4 or 5 on the scale), with 40% indicating they are very familiar. This suggests that most participants have a solid understanding of the role AI and data analytics play in the financial sector, reflecting an informed audience well-suited for exploring innovations in digital lending.

The majority of respondents (68%) believe that AI improves the efficiency of loan processing in digital lending. A smaller percentage (8%) disagree, while 24% are unsure.

The bar chart as shown in figure 11. illustrates the responses to the question of what aspects of AI in digital lending are considered most beneficial.

The results shown in figure 11. that a significant majority of respondents find Accurate Credit Scoring (72%) and Fraud Detection (68%) as the most beneficial aspects of AI in digital lending. A slightly lower percentage (60%) considers Faster Loan Approval beneficial, while Personalised Loan Offers is considered beneficial by 56% of respondents.

This suggests that respondents value the accuracy and efficiency of AI in assessing creditworthiness and identifying fraudulent activities, followed by its ability to streamline the loan approval process and offer tailored loan solutions.

The bar chart illustrates the satisfaction levels of respondents with the application process on digital lending platforms. A rating scale of 1 to 5 was used, where 1 indicates "Not Satisfied" and 5 indicates "Very Satisfied". The results shown in figure 12. that a majority of respondents (50%) are satisfied with the application process, rating it a 4. Additionally, 41.7% of respondents are very satisfied, giving it a 5 rating. Only a small percentage (8.3%) gave it a rating of 3, indicating moderate satisfaction. No respondents gave it a rating of 1 or 2, suggesting that overall, the application process is perceived positively. Overall, the data suggests that respondents are generally satisfied with the application process on digital lending platforms.

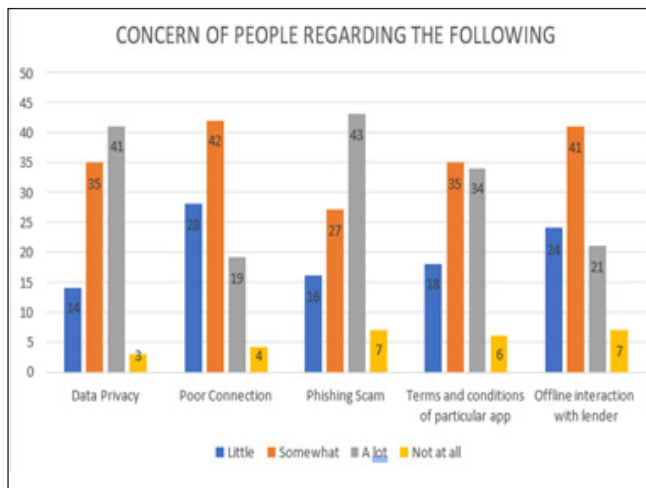


Figure 5. Concerns of People Regarding Digital Lending Aspects

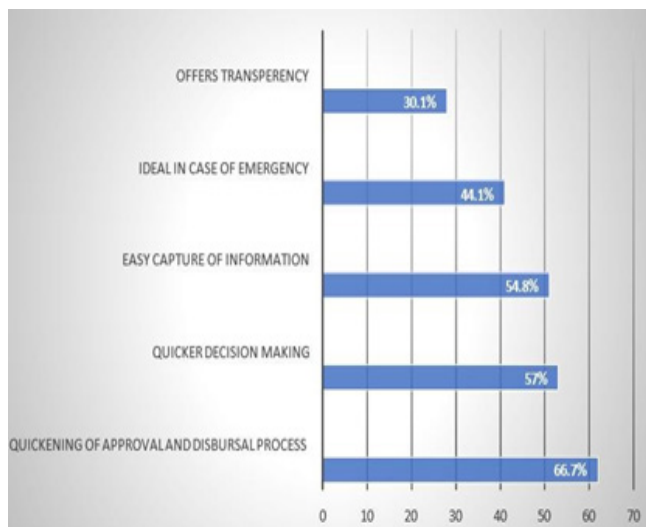


Figure 6. Key Benefits of the Approval and Disbursal Process

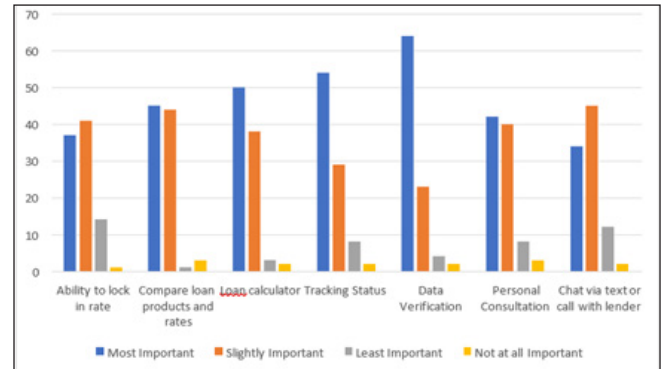


Figure 7. User Perception of Loan Service Features

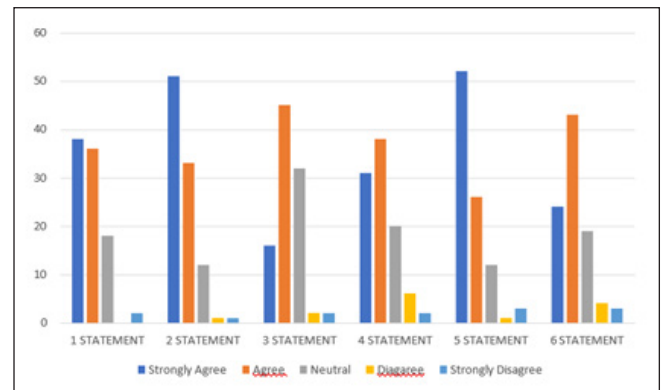


Figure 8. Survey Responses on Different Statements

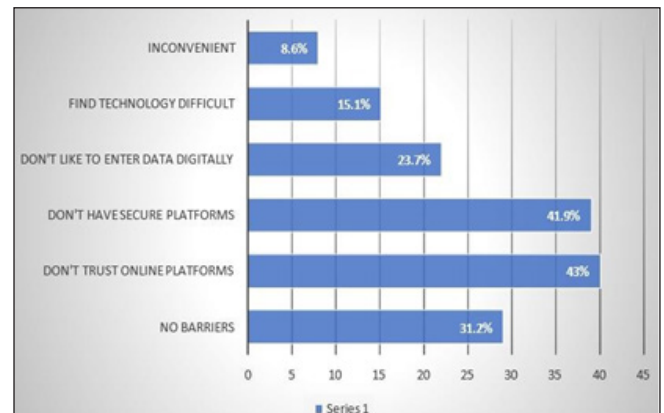


Figure 9. Barriers to Online Platform Usage

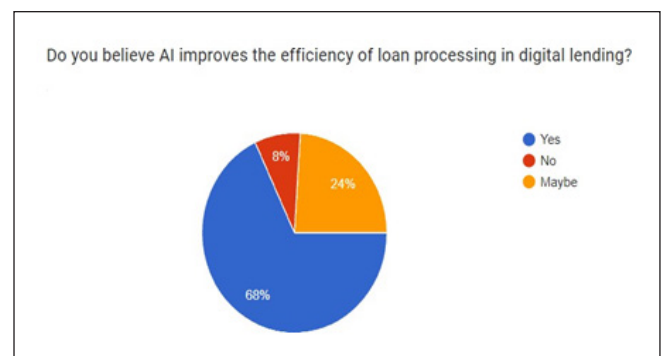


Figure 10. Perception of AI's Role in Improving Loan Processing Efficiency

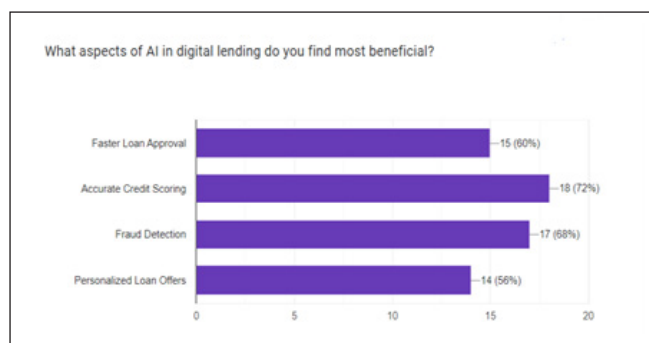


Figure 11. Beneficial Aspects of AI in Digital Lending

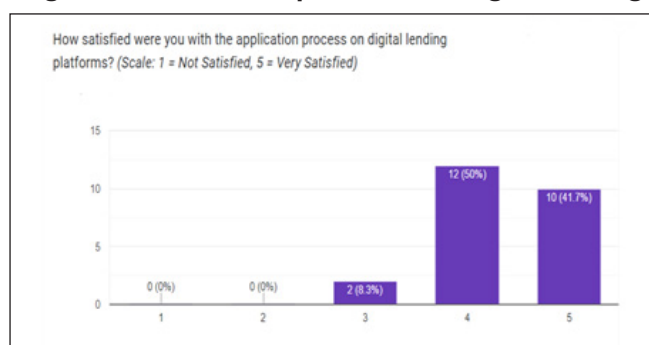


Figure 12. Application Satisfaction of AI in Digital Lending

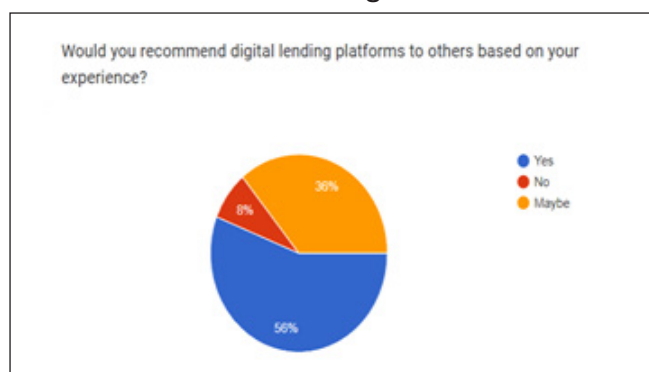


Figure 13. Recommendation Of Digital Lending Platform Survey

The results show that a significant majority of respondents (56%) would recommend digital lending platforms. A smaller percentage (36%) are unsure, while only 8% would not recommend them. Overall, the data suggests that respondents have a positive perception of digital lending platforms and are likely to recommend them to others.

Conclusion

Digital lending has revolutionised the financial ecosystem by offering a convenient and faster alternative to traditional lending methods, driven largely by advancements in artificial intelligence and data analytics. These technologies have enhanced credit scoring models by incorporating alternative data sources like online transaction patterns and social media activity, enabling lenders to make more

informed and accurate decisions. AI-powered fraud detection tools and predictive analytics have strengthened risk management frameworks, while automation has significantly improved operational efficiency, reducing costs and enhancing customer satisfaction. Despite these benefits, challenges such as data privacy concerns, hidden fees, and limited digital literacy remain prevalent. However, AI-driven chatbots and virtual assistants are addressing these issues by guiding users through the digital lending process and ensuring transparency in loan offers. The growing adoption of digital lending, particularly among millennials and small businesses, is fuelled by the widespread availability of smartphones and internet services, coupled with reduced paperwork and ease of access. Consumers prioritise platforms that offer low interest rates, flexible EMI, transparency, and a seamless user experience. Although concerns about connectivity, infrastructure, and security persist, the increasing awareness of information security among users highlights a positive shift in their ability to adapt to technological innovations. The study underscores the importance of understanding consumer perceptions and challenges, which is vital for marketers and fintech players to refine their services. As digital lending continues to grow in India, borrowers must exercise caution, ensuring safe practices and informed decision-making to optimise their financial journeys while reaping the benefits of this transformative technology.

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