IJCRT.ORG ISSN : 2320-2882

INTERNATIONAL JOURNAL OF CREATIVE RESEARCH THOUGHTS (IJCRT)

An International Open Access, Peer-reviewed, Refereed Journal

"Sustainable Digital Finance: A Study On Consumer Acceptance And Adoption In Karnataka"

Author 1:

Name: Supriya Jogi V
Designation: Assistant Professor. Department of Commerce and Management.
Institute Name: Imperial Group of Institutions, Bangalore, India.

Author 2:

Name: Suchithra R
Designation: Student M.com
Finance Specialization.
College: Dayananda Sagar Business Academy, Banglore, India.

ABSTRACT:

This research explores consumers' understanding and usage of sustainable digital financial services in Karnataka, India, and quantifies implications in financial literacy, environmental engagement, and usability. The study utilized a mixed-method structure with quantitative measurement, accompanied by a qualitative survey, and mathematical computation through the application of statistical analysis (T-test, Chi-square, ANOVA, and Pearson correlation). The sample included 351 respondents who were data collectors and the data came in the form of analysis…. In all, the research determined that there was regional variation in adoption, with city residents adopting more digital finance products than non-urban and rural residents, which might be because of better infrastructure and availability of digital literacy for non-urban residents. The study showed that the impacts of participants' education and age had little influence on perceived ease of use and effectiveness of sustainable digital finance services. Some reported being familiar with benefits in financial or environmental activities but did not know or were opposed to performing those behaviors on a daily…. Finally, one of the most important factors in meeting with success in developing sustainable digital finance services will be to develop targeted and complementary digital literacy services that consider how simple the sustainable digital finance service is to use.

Keywords: Sustainable digital finance, consumer adoption, regional disparities, digital literacy, financial management.

INTRODUCTION:

1. Background of the Study

During the twenty-first century, digital innovation and the demand for sustainability have rapidly transformed an evolving financial sector. Digital finance can generally denote technology-enabled financial services that allow citizens and businesses to access, manage, and transfer funds through digital platforms. Digital finance encompasses mobile banking, online payments, digital wallets, peer-to-peer lending, blockchain solutions, and financial service technology (fintech). Digital finance is now an increasingly normative delivery platform for financial services, in a range of developed and emerging nations, due to the growth in internet penetration, cheaper smart phones and the overall increase in digital illiteracy.

At the same time, sustainability has emerged as a global priority. Governments, institutions, and companies are increasingly under pressure to be greener and fairer. Sustainable finance integrates environmental, social, and governance (ESG) into financial choice such that investments and transactions do not interfere with long-term ecological integrity, social welfare, or economic equity. Thus, combined sustainable digital finance will be a powerful tool for renovating financial service provision and paying the sustainable development bill.

The digital finance sector has expanded unprecedentedly in India because of government initiatives (like Digital India and UPI) as well as various fintech start-ups venturing into the space. However, the adoption of sustainable digital finance is still an emerging field. Karnataka offers a unique opportunity to explore how consumers define, accept, and enact sustainable digital finance, given that the state is one of the most digitally mature in India, having a strong IT environment.

2. Sustainable Digital Finance

Sustainable digital finance involves using digital financial technology to enable sustainable development objectives. This includes using digital platforms to offer effective financial services that are also environmentally sustainable and socially inclusive. For example, rather than creating a paper trail in traditional financing transactions, using the digital payment platforms would achieve the same outcome while lowering carbon emissions. In addition, some green fintech solutions will monitor a firm's operations' environmental footprint and offer a vehicle for investing in renewable energy through green bonds.

Ultimately, the aim is to build a financial system that is transparent, inclusive, and built to secure future generations. As people become more worried about climate change, unequal resource distribution, or just business practices, they want to use finance that maintains their own values.

3. The Significance of Digital Financial Services in India

In India, we are amidst a digital finance revolution, and a prime example of this is UPI, which has modernized the payments system even further towards less reliance on cash and more digital currency in

cashless, quick, low-cost payments. There is still a multitude of highly publicized types of mobile wallets like Paytm, Google Pay, and PhonePe. The COVID-19 pandemic perhaps made consumers more tolerant when it comes to digital finance as they craved a safe and contactless way of carrying out their financial transactions and infused a welcome move away from cash.

Aside from convenience, digital finance has been so powerful in facilitating financial inclusion. Un-banked and under-banked citizens in the millions can now use financial services through digital financial services. Adding to this, government welfare schemes are now assisting in bridging the gap regarding transferring the direct benefit transfers to the new digitally opened accounts, as well as fresh and long overdue, while facilitating transparency and lower leakage.

With that said, there are follow-up challenges. Cybersecurity and trust by consumers of digital finance, and digital literacy, are some of the most real adoption challenges. And lastly, sustainability for digital finance hasn't yet been designed or considered in the process.

While some consumers are only using digital finance for convenience or access reasons, their interest and awareness of sustainable digital finance options appear to remain unrealized.

4. Linking Sustainability and Digital Finance

At the global level, the accelerated roll-out of initiatives like the Paris Agreement, the UN SDGs, and green finance is trying to pioneer a finance systems approach to sustainability. Digital finance can take these further, enhance accessibility, traceability, and accountability of green finance.

For instance, fintech platforms are able to offer consumer access to invest micro in green projects in a manner that consumers are now positioned to invest in sustainable growth on a micro level. In addition, blockchain technology can help establish traceability systems in carbon credit markets and offer some form of credible guarantee, while mobile platforms are making climate-resilient credit facilities available to rural communities with greater access. All of these examples are representative of the potential to make a digital finance revolution sustainable, finance-oriented rather than solely driven by modernization and technology-oriented forms of finance. Instead, all these initiatives start to build pillars of a finance system for sustainability.

5. The State of Karnataka

Karnataka, the capital of which is Bengaluru, nick-named the "Silicon Valley" of India, is now more famous for its strong fintech environment, which is sustained by a combination of fintech start-ups, banks, and third-party technology firms. Most industry reports describe Karnataka as a host of a huge province of fintech innovations in India and thus a hub of digital finance adoption of prime importance.

In addition, the socio-economic set-up of Karnataka presents a fascinating backdrop for discerning consumer willingness to adopt sustainable digital finance. Karnataka's urban areas (such as Bengaluru and Mysuru) possess among the country's best digital penetration levels, whereas rural areas have limited digital penetration and trail urban areas in terms of money awareness. In combination, the urban and rural socioeconomic profiles present an interesting backdrop to examine how individuals from Karnataka's various demographic groups prioritize and adopt sustainable digital finance.

A number of government schemes in the state also provide sustenance for sustainability, through cleaner energy measures or smart city initiatives.

6. Adoption and Acceptance of Consumers

Consumer acceptance is an important consideration in any financial innovation. Models such as the Technology Acceptance Model (TAM) and Diffusion of Innovation demand that one element of acceptance -- the perceived ease of use, perceived usefulness, trust, and social influence -- be given due consideration as one determines acceptance and interest in adoption.

The acceptance of consumers regarding sustainable digital finance is also perceived in terms of ease of use, but also extends to factors such as awareness of sustainability practices, trust in digital systems, perceived environmental performance, and other aspects of values congruence. For example, a consumer may be open to trying a new digital payment option because they perceive it helps to reduce paper usage or carbon emissions.

It is important to make clear that all consumer populations will not necessarily experience the same acceptance and willingness to adopt similar practices. Variables such as age, education, income, proximity (living in a large physical population center and/or rural), and cultural traditions are contributing factors to adoption. In Karnataka, the variation is clear, and one can become lost in the analysis of consumer adoption-related practices; one must assess the full landscape of consumer behavior.

7. Research Objectives:

1. To determine consumer perceptions towards the effectiveness of sustainable digital finance services related to personal financial management and time efficiency.
2. To determine consumer attitudes regarding environmental benefits from using sustainable digital finance services related to paper use and environmentally responsible practices.
3. To examine the usability and user experience of sustainable digital finance services, including usability in terms of learning curve, clarity of applications, and ability to complete transactions without external assistance.

4. To explore the likelihood of consumer adoption of sustainable digital finance services in the future, specifically, the likelihood of consumer recommendation based on perceived societal benefit and convenience.

8. Study Framework

The introductory section will conclude with an overview of the framework of the study. The study will begin by looking at the literature on sustainable finance and digital finance, and lay out the theoretical framework. The methodology will describe how the data was collected and analyzed. Finally, results and discussion will provide insight into consumer acceptance and adoption patterns in Karnataka, and recommendations for future policy and practice.

REVIEW OF LITERATURE:

1. Saxena, R. B. (2025). Impact of Digital Payment Adoption on Consumer Spending Behavior in Urban vs Rural Households in India.

Saxena's paper analyzes the impact of digital payment adoption on consumer expenditure behavior among both urban and rural populations in India. The study concluded that urban households, with improved access to digital infrastructure, demonstrated a significant transition toward digital payments. This was followed by growth in discretionary expenditure, as the consumers felt safer and more efficient performing transactions online. However, rural consumers, despite being interested in utilizing digital payment channels, were limited by weak penetration of the internet and lower degrees of financial literacy. The research also throws up the question of the role of government schemes such as Digital India in filling this gap and making digital finance available in the distant corners. The most important of these observations is the huge divergence between consumers who are located in urban and rural environments and their consumption patterns, with urban spaces gaining more from the convenience and openness possibilities offered by digital payment systems. The report concludes by proposing that policymakers address enhancing digital literacy and expanding digital infrastructure in rural regions to promote inclusive economic growth.

2. Sreenu, N. (2025). The Place of Digital Finance and Financing Hurdles in Green Innovation: An Indian Study.

Sreenu's research looks at the impact of digital finance on green innovation in India, specifically at how digital financial products can help overcome the traditional barriers to financing green projects. The study notes that digital finance platforms, such as green bonds and crowdfunding, are making it easier for start-ups and green tech firms to access money. This has led to an expansion in green solutions through innovation, including renewable energy programs and green agricultural technologies. Regional variations in the uptake of these platforms are also identified, with Indian cities in the south gaining more advantage thanks to improved internet infrastructure and higher exposure to green practices. Sreenu opines that the increasing contribution of digital finance towards fostering green innovation will be central to India's path

towards realizing its goals of sustainability. The research, however, stresses the importance of responsive policies that bridge digital literacy gaps and financial inclusion barriers, particularly in remote rural areas. The author suggests a multi-stakeholder strategy to ensure that digital finance interventions benefit environmental sustainability and economic development.

3. Kumar, A., & Mohnot, R. (2023). The Mediating Role of Perceived Trust in the Post-COVID-19 Adoption of Innovative Financial Technology among Digital Natives. Economies, 11(12), 286.

Kumar and Mohnot's research investigates the adoption of advanced financial technologies, including blockchain, digital wallets, and peer-to-peer lending platforms, among digital natives in India. The study looks at how trust perception among these platforms acts as a mediator for the connection between users' intentions to adopt and their usage of the technologies. The research established that trust in security and transparency of online finance platforms is a key determinant of adoption, particularly with the younger generations who are familiar with digital spaces. In their opinion, sustainable adoption hinges on fintech platforms emphasizing trust by being transparent in their operations, providing effective customer care, and open communication regarding measures taken for security. Further, the research concluded that if consumers trusted these platforms, they would be more inclined towards adopting them in the long term, especially post-COVID-19, when digital finance products have assumed a crucial role to play in financial transactions on a day-to-day basis. Kumar and Mohnot's work offers insightful comments on the way fintech companies must go about encouraging India's growth in digital finance.

4. Mishra, N. (2023). Green Fintech Revolution: Evaluating The Contribution Of Green Finance Platforms To Environmental And Social Impacts.

Mishra's work looks into how green fintech solutions have enabled environmental and social sustainability within India. According to the study, environmentally conscious finance platforms, which include consideration of environmental, social, and governance (ESG) indicators, have played an important role in carbon emission reduction and environmentally friendly investments. Through its emphasis on platforms that fund green energy projects and sustainable farming, Mishra's work demonstrates how such platforms are solving key environmental issues while promoting social justice. The study is significant as it points towards the role fintech can play in democratizing access to green finance, making small investors and communities in underprivileged locations able to support the cause of environmental preservation. Mishra also identifies that although there is considerable growth in green fintech in cities, there are challenges in rural areas where internet penetration and digital literacy are weak. The study culminates in an appeal for more government intervention to establish a regulatory framework that fosters the development of green fintech in all parts of India so that the advantages of sustainable finance can reach every corner of the country.

5. Hossain, M., & Alam, M. (2025). Digital Finance and Green Technology Innovation in India: Exploring the Role of Financing Constraints.

The research of Hossain and Alam focuses on the impacts of digital finance on India's green technology innovation, in particular through the provision of financing requirements that have hitherto limited the development of green technologies. Based on the research, digital finance platforms such as online lending platforms and digital investment tools have made it easier for green technology firms to gain access to funds. This online access to capital has been central in accelerating the innovation of green technologies, including energy-efficient goods and renewable energy technologies. The study also assesses the prospect for digital finance to reduce the enormous financing expenses of green innovation, i.e., capital-starved projects like solar power and waste management. One of the key observations is that virtual finance platforms are more adaptable to smaller investments and quicker returns, which appeal to green-friendly investors. However, the study highlights that despite these advantages, there remain significant disparities in offering finance to smaller green-tech start-ups, especially in rural communities. Hossain and Alam end by advocating policy measures that will promote green financing among small firms and which will bring digital finance to all segments of the economy.

RESEARCH GAP:

The unprecedented rise of digital finance in India has created ample opportunities, particularly concerning sustainability. With continued advancements in mobile payments, digital wallets, online lending, personal finance apps, and overall digital financial services, their positive environmental potential is more evident. Not only do digital solutions have the capacity to promote environmentally sustainable behaviors by decreasing the necessary choices pertaining to paper transactions, but they can also improve the efficiency of resource use to align with global sustainability commitments. However, while digital finance has the potential to aid in environmental sustainability, it remains unevenly adopted in Karnataka to support sustainable practices in urban, semi-urban, and rural areas. Urban consumers showed higher interest in sustainable financial practices as this area had significantly more access to technology and digital skills, compared to the underdeveloped aspects of semi-urban and rural regions. Rural areas were faced with challenges around limited internet access, lower financial literacy, and limited awareness of sustainable finance options (Kuipers et al., 2022). Therefore, understanding which factors are influencing consumers towards adopting sustainable digital finance use is an important step toward targeted interventions. By understanding what perceived ease, environmental impact, and trust mean for consumers in adopting sustainable digital finance in Karnataka, this research will provide actionable suggestions for creating a more sustainable digital finance sector and increasing participation in the sector in Karnataka.

HYPOTHESIS:

1. Effectiveness in Financial Management and Time Efficiency:

Null Hypothesis (H_0): No significant relationship exists between consumer perceptions regarding the effectiveness of sustainable digital finance services and their time or personal financial management.

Alternative Hypothesis (H_1): A significant relationship exists between consumer perceptions regarding the effectiveness of sustainable digital finance services and their time or personal financial management.

2. Environmental Benefits and Adoption Likelihood:

Null Hypothesis (H_0): No significant relationship exists between consumer attitudes regarding the environmental benefits of sustainable digital finance services and the likelihood to adopt these services.

Alternative Hypothesis (H_1): A significant relationship exists between consumer attitudes regarding the environmental benefits of sustainable digital finance services and the likelihood of adopting these services.

3. **Ease of Use and Platform Adoption:**

Null Hypothesis (H_0): No significant relationship exists between the ease of use and user-friendliness of sustainable digital finance platforms and the likelihood of consumer adoption of these platforms.

Alternative Hypothesis (H_1): A significant relationship exists between the ease of use and user-friendliness of sustainable digital finance platforms and the likelihood of consumer adoption of these platforms.

4. Willingness to Adopt and Recommendation Likelihood:

Null Hypothesis (H_0): Consumers' willingness to use sustainable digital finance services has no significant correlation with their willingness to recommend the services to other people.

Alternative Hypothesis (H_1): Consumers' willingness to use sustainable digital finance services has a significant correlation with their willingness to recommend the services to other people.

RESEARCH METHODOLOGY:

This research aims to measure consumer acceptance and adoption of green digital finance services in Karnataka. A mixed-method design with a combination of quantitative and qualitative data collection methods will be utilized to collect appropriate insights, analyze the data, and validate the hypotheses.

Research Design:

This study follows a descriptive and causal research design. Descriptive design will assist in the comprehension of consumer attitudes, perceptions, and behavior towards sustainable digital finance. The causal design, on the other hand, will enable the determination of relationships among various factors, including environmental consciousness, convenience, and readiness to embrace digital finance solutions.

The research will seek to establish the drivers behind consumer choice and behavior towards adopting sustainable finance.

Research Approach:

The study will utilize a quantitative approach in analyzing consumer data in relation to dimensions of sustainable digital finance. Primary data will be collected using a survey questionnaire, which is designed to solicit consumers' views and attitudes towards effectiveness, environmental sensitivity, usability, and willingness to use sustainable digital finance services. Secondary data will be collected using existing scholarly articles, research reports, and industry publications, which will add depth and background to the findings.

Sample Size and Sampling Method:

351 respondents will be covered by the study for statistical validity and reliability. The respondents will be chosen by a stratified random sampling method, which will provide diversity from different demographic segments of urban, semi-urban, and rural Karnataka. The stratification will be done based on age, gender, educational level, and income level, and all major demographic segments will be covered.

Primary Data Collection:

The primary data will be gathered using a programmed questionnaire comprising closed-ended questions meant to measure respondents' views on sustainable digital finance services.

Secondary Data Collection:

Secondary data will be gathered from peer-reviewed journals, industry reports, and articles concerning sustainable digital finance and consumer uptake. This data will serve as useful information to create a theoretical framework, enhancing the analysis of primary data and helping contextualize the research findings against the body of knowledge.

Data Analysis Techniques:

To test hypotheses and assess variable relationships, the following statistical methods will be applied:

T-Test:

A T-test would be used to test differences in the mean responses across groups (e.g., age segments, income segments) on such variables as effectiveness of financial management and time efficiency. This would enable one to ascertain whether there are perceptual differences across groups.

Chi-Square Test:

The Chi-Square Test will be employed to determine the relationship between categorical variables, i.e., location (urban or rural) and adoption behavior. This will determine if the adoption of green digital finance services varies significantly by geographic location.

Pearson Correlation:

Pearson correlation will quantify the strength and direction of the linear relationship between the continuous variables, i.e., willingness to adopt and probability of recommending sustainable digital finance services. This will assist in understanding how one factor might be able to predict the other.

ANOVA (Analysis of Variance):

ANOVA will be utilized to contrast mean responses in different groups (e.g., education levels) regarding the ease of use of sustainable digital finance services. This will determine if differences in user experience are relevant to education.

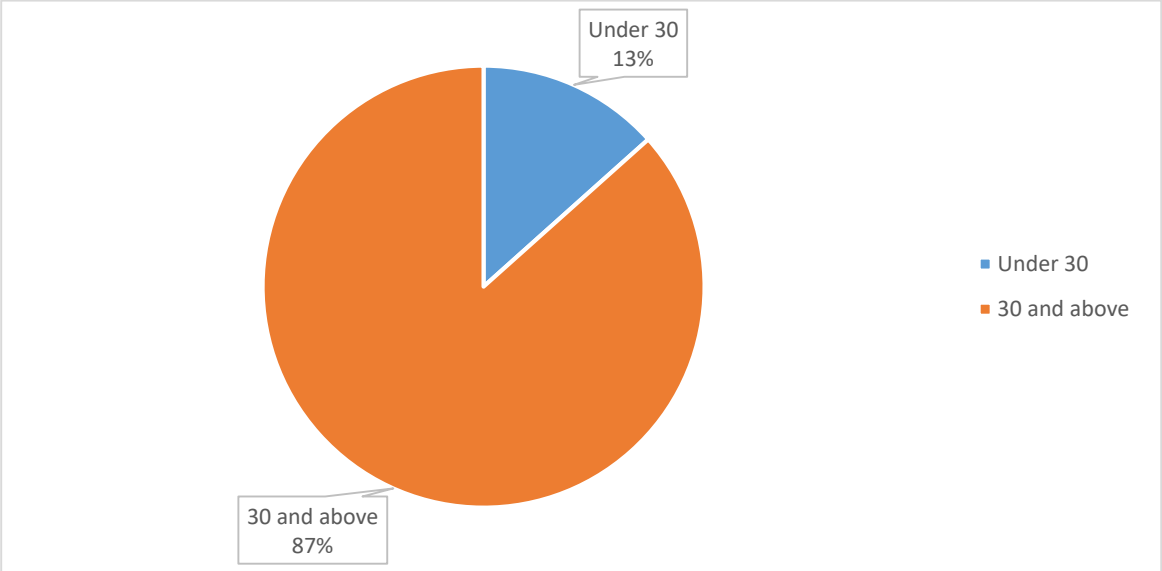
Ethical Issues:

The research will be based on the highest ethical standards. Respondents will be willing participants, and informed consent will be provided before data collection. They will be guaranteed confidentiality and anonymity in their responses. The study will also conform to data protection and privacy legislation relevant to the situation, guaranteeing the handling of participants' data in a responsible manner.

RESULT:

Q1. Age

Age	No of respondents	% of respondents
Under 30	47	13.39%
30 and above	304	86.61%

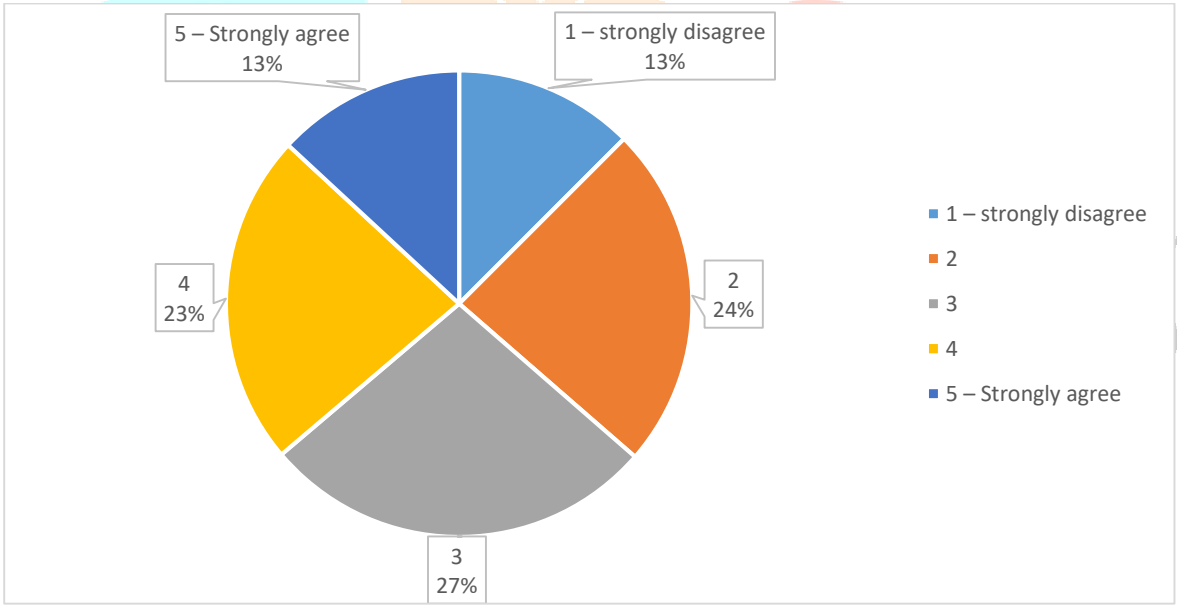


INTERPRETATION:

The information shows that there is a great majority of the respondents in the "30 and above" category, making up 86.61% (304 respondents) of the sample. By comparison, there are only 13.39% (47 respondents) in the "Under 30" category. The distribution implies that the sample has a greater preponderance of older people with much fewer younger people, consistent with a possible age bias in the survey or the target audience.

Q2. Using sustainable digital finance services improves my ability to manage my personal finances.

Financial management	No of respondents	% of respondents
1 – strongly disagree	44	12.5%
2	84	23.9%
3	96	27.4%
4	81	23.1%
5 – Strongly agree	46	13.1%



INTERPRETATION:

The responses to the item "Using sustainable digital finance services enhances my management of my personal finances" are distributed unevenly in terms of levels of agreement. 27.4% (96 respondents) chose a middle response, neither agreeing nor disagreeing. 23.9% (84 respondents) slightly disagreed, and an equally sized group, 23.1% (81 respondents), indicated moderate agreement. 12.5% (44 respondents) strongly disagreed with the item, implying a lack of perceived effect. Still, 13.1% (46 respondents) agreed very much, demonstrating that some of the respondents acknowledge the positive effect that sustainable digital finance services have on managing personal finances. Generally, the overall responses reflect a mixed but positively oriented view towards the influence of digital finance on enhanced financial management.

1. Effectiveness in Financial Management and Time Efficiency

Null Hypothesis (H_0): No significant relationship exists between consumer perceptions regarding the effectiveness of sustainable digital finance services and their time or personal financial management.

Alternative Hypothesis (H_1): A significant relationship exists between consumer perceptions regarding the effectiveness of sustainable digital finance services and their time or personal financial management.

Independent Samples T-Test

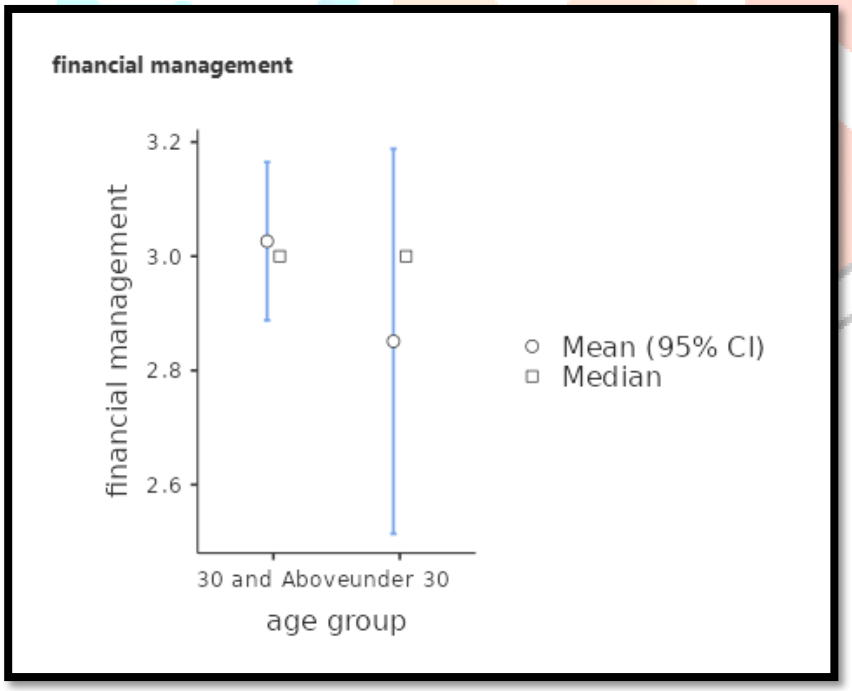
Independent Samples T-Test

		Statistic	df	p	Mean difference	SE difference		Effect Size
financial management	Student's t	0.913	349	0.181	0.175	0.192	Cohen's d	0.143

Note. H_a $\mu_{30\text{ and Above}} > \mu_{\text{under 30}}$

Group Descriptives

	Group	N	Mean	Median	SD	SE
financial management	30 and Above	304	3.03	3.00	1.23	0.0707
	under 30	47	2.85	3.00	1.18	0.172



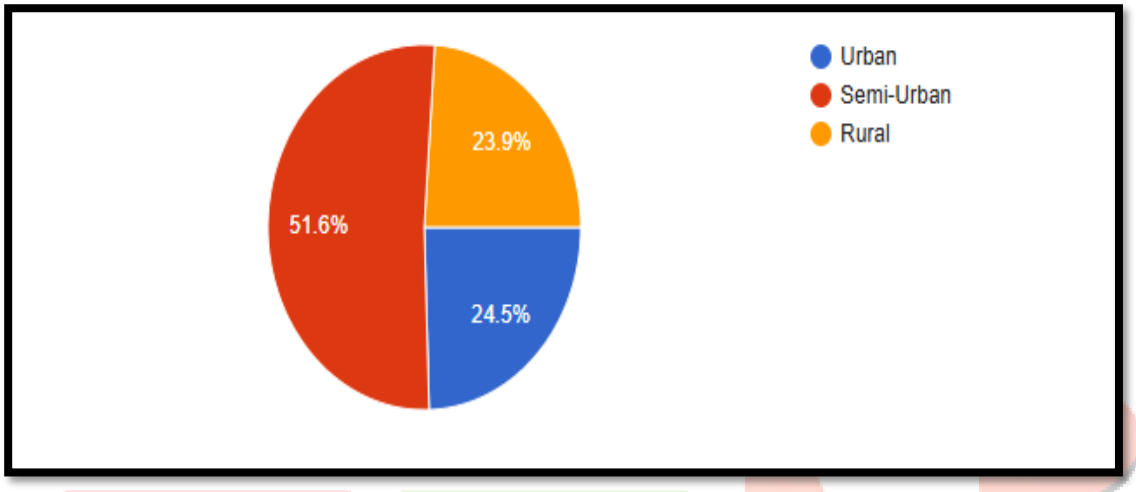
INTERPRETATION:

The findings from the independent samples T-test suggest that the financial management scores between the two age categories (30 and Above vs. Under 30) are not statistically significant. The T statistic (t = 0.913) is associated with a p-value of 0.181, which is well above the conventional level of 0.05 and indicates the mean score differences are not statistically significant. The mean for those aged 30 and over (M = 3.03) is higher than those under 30 (M = 2.85), but this difference of 0.175 is trivial and not statistically meaningful when combined with the effect size (Cohen's d = 0.143) indicating a very small

effect. Therefore, across this dataset, it does not appear that age has a notable relationship with financial management perceptions.

Q5. Location

Location	No of respondents	% of respondents
Urban	86	24.5%
Semi-Urban	181	51.6%
Rural	84	23.9%

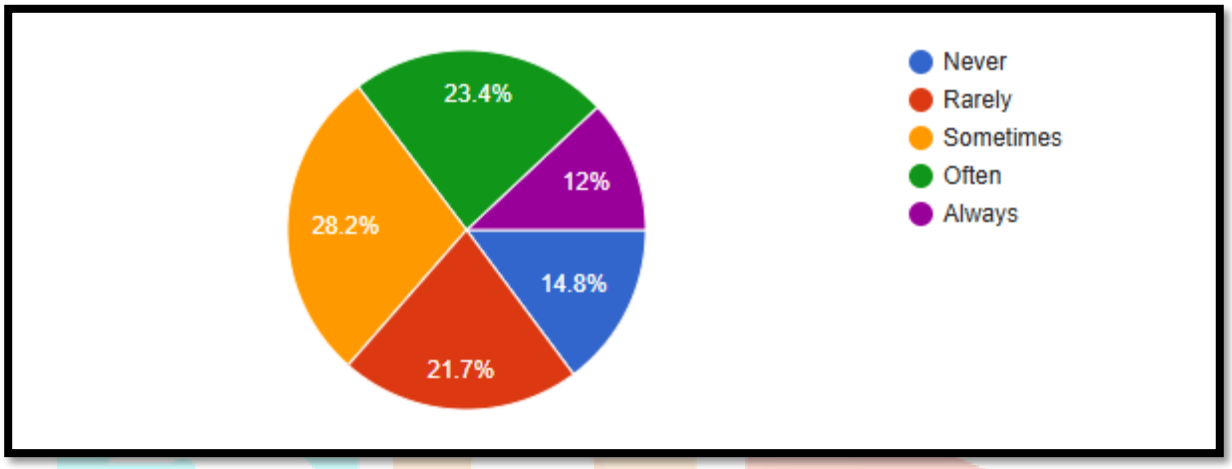


INTERPRETATION:

According to the results of Q5 (Location), the geographical distribution of respondents exhibited a substantial bias toward semi-urban areas, which represented 51.6% of the total sample. Urban followed at 24.5% and rural at 23.9%. Accordingly, the sample placed more importance on semi-urban respondent representation, which most likely reveals accessibility and utilization of sustainable digital finance services in differently-related infrastructure, and digital capacity literacy places. Moreover, the semi-urban responses may evidence a larger segment of a local population involved with sustainable digital finance services as well. Once again, further research would be required to determine this observation over different regions, geographic locations, and finally know what drivers can have affected the spread.

Q18. How frequently do you currently use sustainable digital finance services?

Frequency of use	No of respondents	% of respondents
Never	52	14.8%
Rarely	76	21.7%
Sometimes	99	28.2%
Often	82	23.4%
Always	42	12%



INTERPRETATION:

The analysis of responses to Q18 (Frequency of Use of Sustainable Digital Finance Services) reveals a varied pattern of adoption amongst participants. There are considerable numbers of respondents that reported they "sometimes" (28.2) use sustainable digital finance services and there are also substantial numbers of respondents who reported they "often" (23.4) use sustainable digital finance services. On the other hand, the respondents who reported they "rarely" (21.7) use sustainable digital finance services and the number of respondents who reported they "never" (14.8) use sustainable digital finance services are also significant. The number of respondents who reported they "always" (12) use sustainable digital finance services is less than the amount of respondents who use the services less frequently. Therefore this suggests that even with increasing amounts of sustainable digital finance service adoption, regular use of the sustainable digital finance services from respondents is relatively low. More significantly a large percentage of the sample is either using the sustainable digital finance services infrequently, or no use at all. These results suggest that targeted efforts to increase awareness and personal ease of use and perceived benefits of providing and using incentives towards more regular adoption is needed across demographic segments.

2. Environmental Benefits and Adoption Likelihood

Null Hypothesis (H_0): No significant relationship exists between consumer attitudes regarding the environmental benefits of sustainable digital finance services and the likelihood to adopt these services.

Alternative Hypothesis (H_1): A significant relationship exists between consumer attitudes regarding the environmental benefits of sustainable digital finance services and the likelihood to adopt these services.

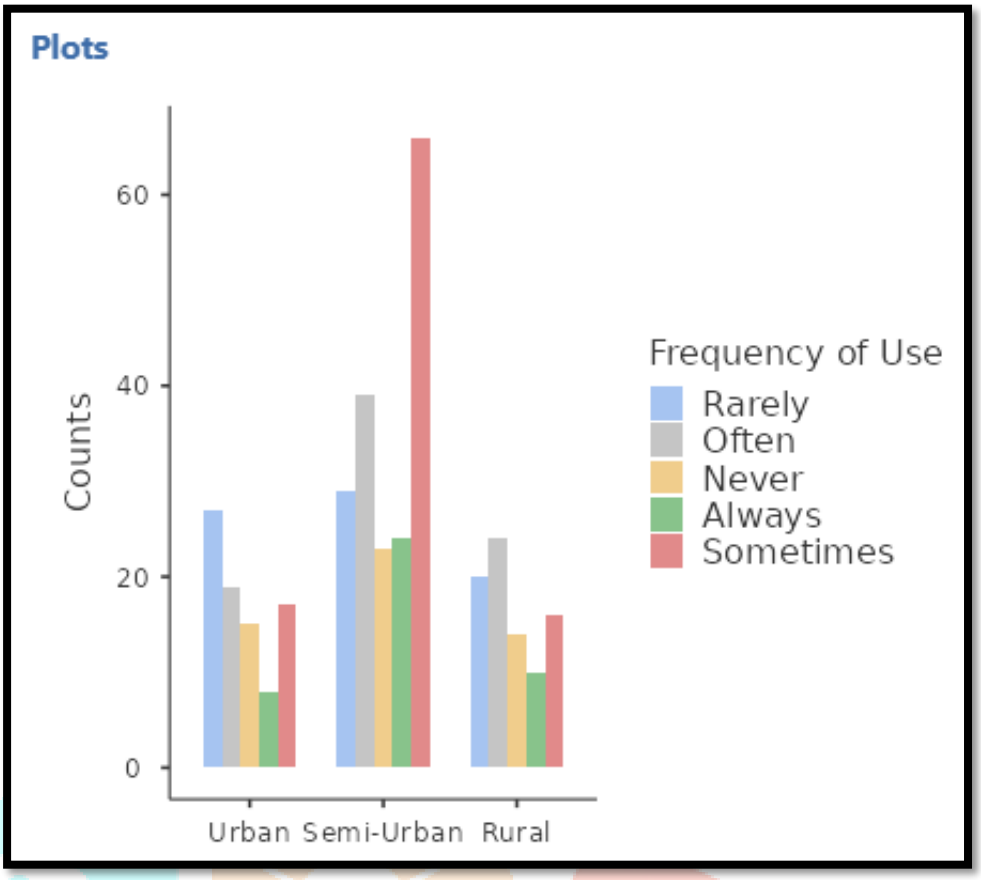
Contingency Tables

Contingency Tables

	Frequency of Use					
location	Rarely	Often	Never	Always	Sometimes	Total
Urban	27	19	15	8	17	86
Semi-Urban	29	39	23	24	66	181
Rural	20	24	14	10	16	84
Total	76	82	52	42	99	351

χ^2 Tests

	Value	df	p
χ^2	18.8	8	0.016
N	351		

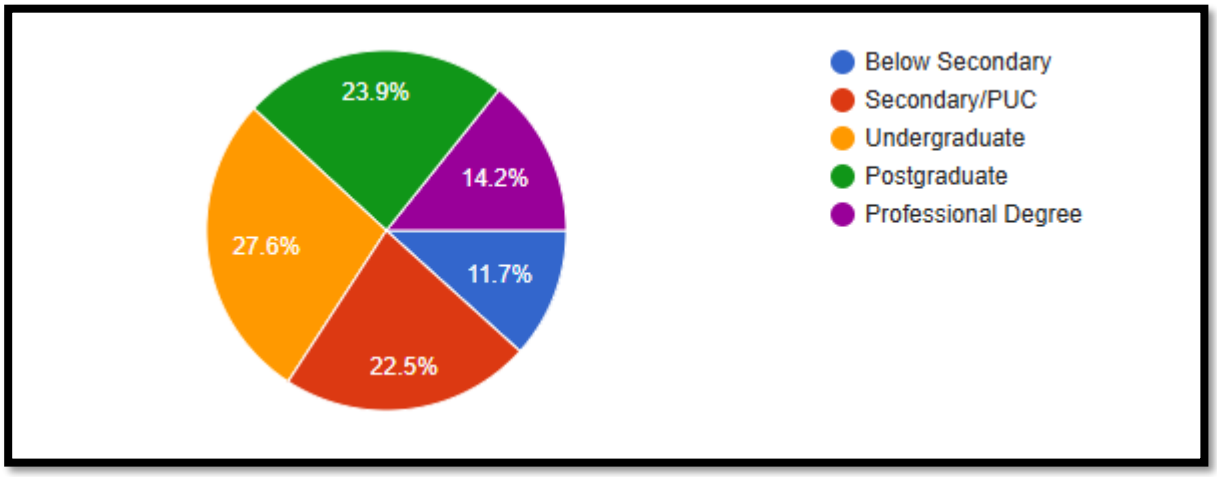


INTERPRETATION:

The results of the Chi-Square test indicate that there is a significant association between the respondents' location (urban, semi-urban, and rural) and how often they take advantage of sustainable digital finance services. The Chi-Square value is 18.8 with a p-value of 0.016, which is below the 0.05 significance level, leading to our rejection of the null hypothesis. This implies that consumers' perspectives, about the environmental benefits of sustainable digital finance services, are significantly related to the likelihood of them acting on adoption of digital finance services in any of these locations. It confirms that such behavior varies by location.

Q3. Highest Educational Qualification:

Education qualification	No of respondents	% of respondents
Below Secondary	41	11.7%
Secondary/PUC	79	22.5%
Undergraduate	97	27.6%
Postgraduate	84	23.9%
Professional Degree	50	14.2%

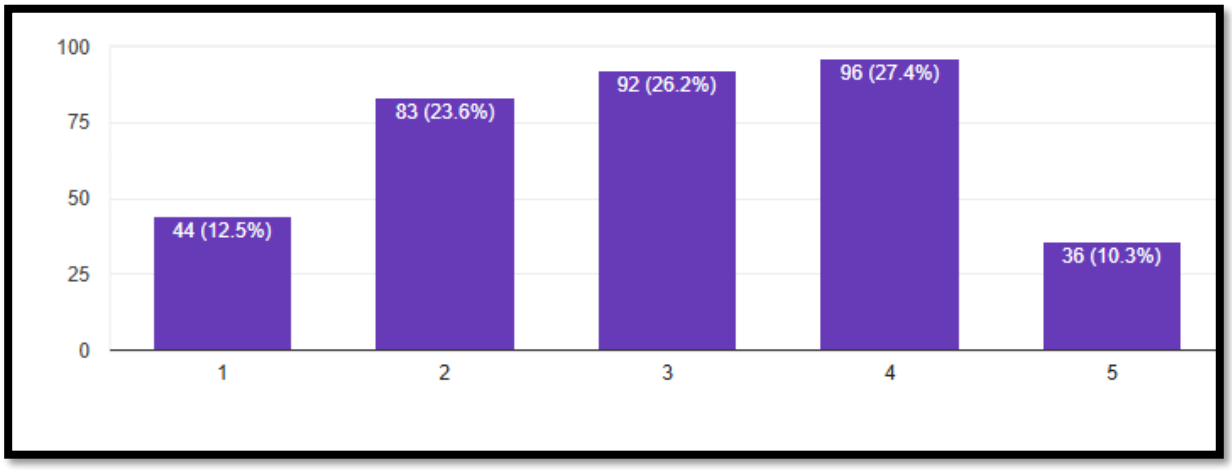


INTERPRETATION:

The responses to Q3 (Highest Educational Level) show a mix of respondents' educational backgrounds. The largest group, or 27.6%, have an Undergraduate qualification, followed by Secondary/PUC graduates with 22.5%. Respondents at the Postgraduate level accounted for 23.9% of our cells, along with the Professional Degree group representing 14.2% of our sample. Lastly, a smaller group of 11.7% have received Below Secondary education. Overall, it has the indicator of providing a good representation of the three groups by educational qualifications, and in total, most of the respondents have at least a secondary or undergraduate education level. We could anticipate that most participants would provide a level of exploration, as we have educational diversity, and therefore, greatly support the value of this study by understanding educational levels that can influence perceptions and acceptance to sustainable digital finance services use.

Q10. I find sustainable digital finance applications clear and understandable.

Use of clarity	No of respondents	% of respondents
1 – strongly disagree	44	12.5%
2	83	23.6%
3	92	26.2%
4	96	27.4%
5 – Strongly agree	36	10.3%



INTERPRETATION:

The results of Q10 (I find the sustainable digital finance applications, clear and understandable) have generated a donor site of views in terms of clarity and usability of the applications, with the greatest segment indicating Agree to this statement (rating a 4). A total of 27.4% indicated Agree rating. A total of 26.2% adopted a neutral position (rating a 3) and were both neither agree or disagree with the statement. In contrast, ratings of 2 required recognition of difficulty understanding the applications with 23.6% indicating they had difficulty. And finally only a small segment, 10.3% Strongly Agree (rating a 5) which meaningfully indicates that few users perceived the applications as clear and understandable. With a near equal number, or 12.5% Strongly Disagree (rating a 1), representing considerable difficulty in using the applications. Overall, the survey reports improvement clarification and user friendliness to sustainable digital finance applications, estimates approximating 60%.

3. **Ease of Use and Platform Adoption**

Null Hypothesis (H_0): No significant relationship exists between the ease of use and user-friendliness of sustainable digital finance platforms and the likelihood of consumer adoption of these platforms.

Alternative Hypothesis (H_1): A significant relationship exists between the ease of use and user-friendliness of sustainable digital finance platforms and the likelihood of consumer adoption of these platforms.

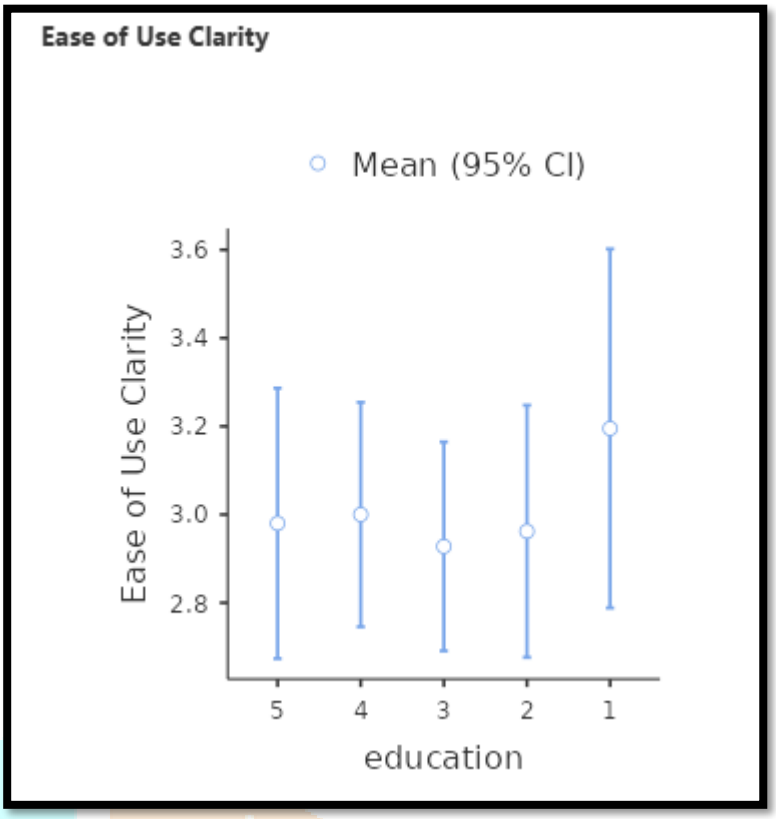
One-Way ANOVA

One-Way ANOVA (Welch's)

	F	df1	df2	p
Ease of Use Clarity	0.335	4	146	0.854

Group Descriptives

	education	N	Mean	SD	SE
Ease of Use Clarity	5	50	2.98	1.08	0.153
	4	84	3.00	1.17	0.128
	3	97	2.93	1.17	0.119
	2	79	2.96	1.28	0.143
	1	41	3.20	1.29	0.201



INTERPRETATION:

The ANOVA test aimed to assess whether a connection existed between the perceived ease of use and user-friendly aspects of sustainable digital finance platforms with regards to consumer adoption at varying educational levels. The null hypothesis (H_0) was that there was no significant relationship, while the related hypothesis (H_1) proposed that there was a significant relationship.

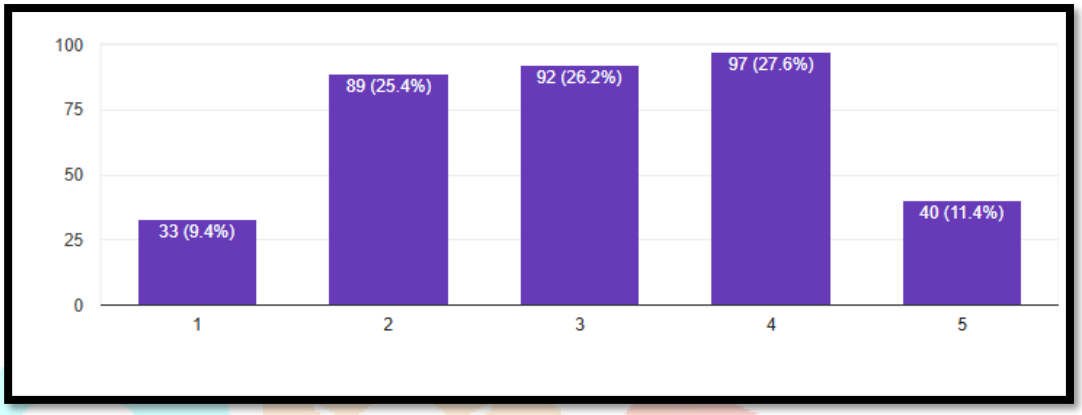
F-value: An F-value of 0.335 indicated that the group means did not differ significantly from one another when comparing ease of use clarity across educational categories.

p-value: With a p-value of 0.854 which again is higher than the acceptable threshold value of 0.05, we are unable to reject the null hypothesis.

Thus, we accept that there is not a significant relationship between educational levels of respondents and their perceptions of ease of use and user-friendly consideration for adopting sustainable digital finance platforms. This would imply that ease of use and clarity would not vary significantly by educational level, in regards to likelihood of consumer adoption.

Q15. I intend to use sustainable digital finance services regularly in the future.

Willingness to Adopt	No of respondents	% of respondents
1 – strongly disagree	33	9.4%
2	89	25.4%
3	92	26.2%
4	97	27.6%
5 – Strongly agree	40	11.4%

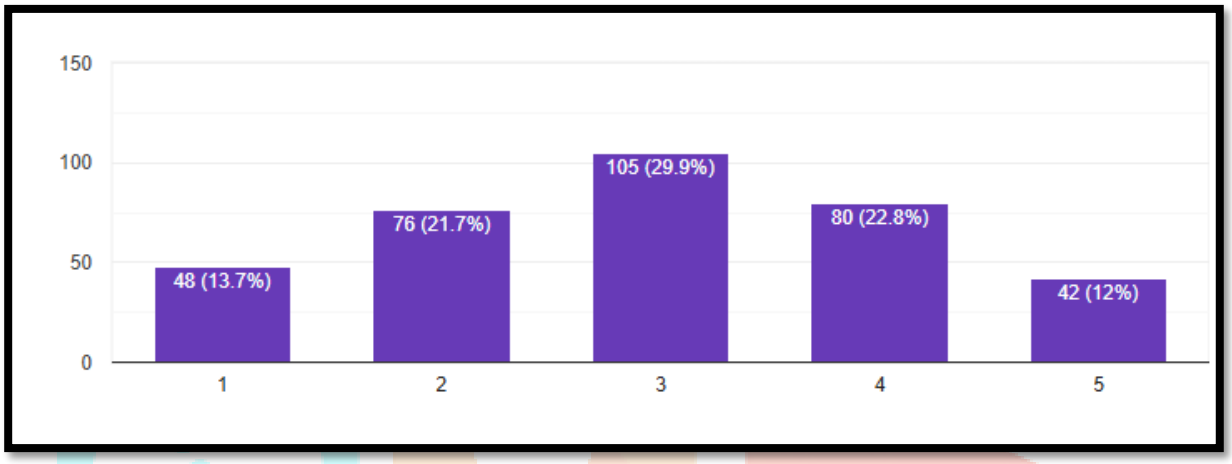


INTERPRETATION:

The responses to Q15 (I intend to use sustainable digital finance services regularly in the future) show varied willingness to adopt sustainable digital finance services regularly. The largest group of responses (27.6%) were somewhat agreeable (rating 4), which indicated a moderate willingness or intent to adopt sustainable digital finance services regularly. There were a total of 26.2% neutral responses (rating 3), which indicates uncertainty in adoption for the future timeframe. Next, 25.4% of respondents were somewhat disagreeable (rating 2), meaning they do not intend to adopt; but they are somewhat open to the consideration of sustainable digital financial services. Lastly, 9.4% of respondents strongly disagreed (rating 1) to indicate that they do not intend to adopt sustainable digital finance services in the future timeframe. On a positive note, 11.4% of respondents strongly agreed (rating 5) indicating an interest in adopting sustainable digital finance services. Overall, the findings indicate that there is some willingness to adopt sustainable digital finance services, as demonstrated by the respondents who were somewhat agreeable (rating 4) and strongly agreeable (rating 5), but the results indicate that there are significant amounts of uncertainty or unwillingness to adopt, which indicates the need for continued engagement and awareness to promote further adoption of sustainable digital finance services.

Q16. I will recommend sustainable digital finance services to my friends or family.

Likelihood to Recommend	No of respondents	% of respondents
1 – strongly disagree	48	13.7%
2	76	21.7%
3	105	29.9%
4	80	22.8%
5 – Strongly agree	42	12%



INTERPRETATION:

The answers to Q16 (I will recommend sustainable digital finance services to my friends or family) show that there is a mix of attitudes towards advocating for the services. The largest group of respondents (29.9%) chose a neutral position—rating them a 3—which could indicate uncertainty or indifference related to reading digital finance services. A little less than a quarter (22.8%) of respondents agreed at a somewhat positive level—rating them a 4, indicating the person would recommend the services but with some hesitation, and only 12% agreed at the highest level—rating them a 5, indicating they would recommend the services readily. Meanwhile, 21.7% of respondents rated it a 2—indicating mild disagreement with reading about sustainable digital finance services—and 13.7% strongly disagreed—rating it a 1—if they reading about sustainable digital finance services. Overall, it indicates that there is evidence of the intent to act positively by recommending reading the services, though a number of respondents remain neutral or unconvinced that would endorse these services, leading to further opportunity to develop this area in regards to consumer satisfaction and trust.

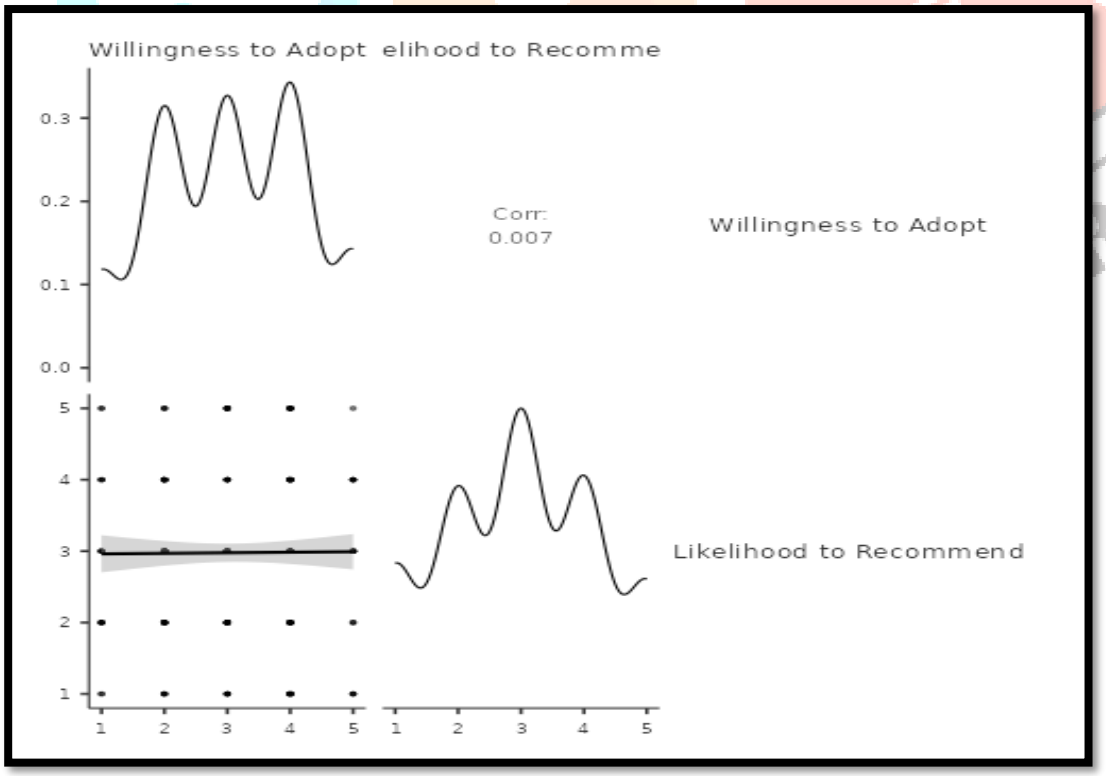
4. Willingness to Adopt and Recommendation Likelihood

Null Hypothesis (H_0): Consumers' willingness to use sustainable digital finance services has no significant correlation with their willingness to recommend the services to other people.

Alternative Hypothesis (H_1): Consumers' willingness to use sustainable digital finance services has a significant correlation with their willingness to recommend the services to other people.

Correlation Matrix

		Willingness to Adopt	Likelihood to Recommend
Willingness to Adopt	Pearson's r	—	
	df	—	
	p-value	—	
Likelihood to Recommend	Pearson's r	0.007	—
	df	349	—
	p-value	0.895	—



INTERPRETATION:

The findings from the Pearson Correlation demonstrate that there is a Pearson's r value of 0.007 between consumers' willingness to adopt sustainable digital finance services and likelihood to recommend to others, and the corresponding p-value is 0.895. Based on the much larger p-value than the established significance level of 0.05, we fail to reject the null hypothesis, suggesting that there is no statistically significant

correlation between consumers' willingness to adopt sustainable digital finance services and their likelihood to recommend these services to others.

In relative terms, though the correlation coefficient is positive, this high p-value indicates that the relationship between the two variables is negligible and the observed correlation is a result of random guessing rather than a meaningful relationship between the two variables. Therefore, we can conclude that, for the purpose of the current data, consumers' willingness to use sustainable digital finance services on a regular basis does not significantly influence their likelihood to recommend the services to others.

DISCUSSION:

The study employed a range of statistical techniques to investigate aspects surrounding consumer attitudes and use of sustainable digital finance services in Karnataka. For distinct purposes for evaluating relationships among the variables, T-tests, Chi-square tests, ANOVA, and Pearson Correlation were statistical methods employed.

T-Test:

A T-test was performed to assess for mean differences between groups on consumer use of sustainable digital finance and evaluating if the mean differed for those consumers "Under 30" years of age from consumers "30 and above" when assessing perceived usefulness of sustainable digital finance to help manage personal finances/ better savings of time. In this case, the differences between groups were not statistically significant (p=0.181) and much greater than the threshold of significance of (.05). This indicates to both age groups were not a substantial factor for consumers when partaking in evaluating service effectiveness of digital financial services. With a Cohen's d value of 0.143, which indicated a small effect size also supports this conclusion from the T test that age does not impact the perception of effectiveness of digital finance services or the usefulness of these services.

Chi-Square Test:

A Chi-Square test assessed the relationship between geographic location (urban, semi-urban and rural) with habitual using sustainable digital payments. Results indicated a statistically significant relationship at a p value of 0.016, which is below the predetermined significance level (alpha = 0.05). This implies that a consumer's likelihood to use sustainable digital payments is affected by geographic area. Urban and semi-urban areas were more likely to use sustainable digital payments when compared to rural areas, whether due to digital literacy or infrastructure challenges present in rural areas.

ANOVA (Analysis of Variance):

ANOVA was used to determine the relationship between educational levels and perceived ease of use of sustainable digital payment platforms. A statistically insignificant F-value of .335 and p-value of .854 was observed. This suggests that an educational background does not affect perceptions of ease of use or user-

friendly applications. This finding is surprising because education is a well-known indicator of digital adoption; however, this might provide evidence that ease of use is not as sensitive to educational backgrounds as we would expect. Other factors such as platform designs or familiarity with technology may have more effect.

Pearson Product-Moment Correlation:

A Pearson Correlation was conducted to explore the relationship between consumers' willingness to adopt sustainable digital finance services, and their likelihood to recommend the services to others. The analysis revealed a negligible correlation 0.007 with a p value of 0.895. This high p value indicates no correlation between willingness to adopt sustainable digital finance services and likelihood to recommend to others. Specifically, the results suggested that aspects such as trust, perceived benefits, and user experience may not be meaningfully associated with likelihood to recommend to others, suggesting additional areas to explore regarding what influences advocacy.

In summary, statistical evidence provides valuable information regarding consumer behavior and adoption of sustainable digital finance services. The lack of significance for the differences in some areas (age and educational level) indicates that other variables, such as trust and familiarity with a platform, may be more substantive and influential in shaping consumer perception. Moreover, the ranges provided by the Chi-square test also highlight geographical and infrastructural factors as determinants of adoption rates, particularly in rural-to-semiurban regions.

CONCLUSION:

In summary, in this research, important indications regarding the adoption and consumer attitudes towards sustainable digital finance services in Karnataka have been forwarded. The statistical evidence brought to light a number of major determinants of adoption, which include geographic position, age, and educational attainment. Although urban and semi-urban regions showed increased interaction with digital financial services, rural areas fell behind because of infrastructure issues and poor digital literacy. Analysis through the use of T-tests, Chi-square tests, ANOVA, and Pearson correlation provided a complete understanding of how these variables correlated with consumer behavior.

The findings highlighted that age and education had little impact on the perceptions of consumers towards financial management benefits and the usability of digital platforms, implying that familiarity with technology and usability may be more significant factors influencing attitudes. The strong correlation between location and usage of services highlights the necessity for interventionist strategies, especially rural areas, to address the digital divide and improve access to sustainable finance.

While some respondents had upbeat sentiments regarding the efficacy of sustainable digital financial services, a significant number of them were neutral or unsure about adoption, highlighting the necessity of

additional awareness campaigns and incentives for frequent usage. Much work must be done in enhancing digital literacy, designing accessible platforms, and information dissemination on the environmental impacts of sustainable digital finance in order to promote wider uptake across various demographic segments in Karnataka.

While a large majority of the participants supported the use of digital finance services that are sustainable, there was a sizable contingent that was neutral or unknown in their stance on the sustainability issue. This specificity regarding the sustainability issue results in certain implications for awareness and incentivization on the use of sustainable digital finance services on a regular basis. Future efforts must be directed towards enhancing digital literacy, developing user-friendly services or platforms, and highlighting the ecological advantages in connection with sustainable digital finance to be adopted across demographic groups in Karnataka.

REFERENCES:

1. Saxena, R. B. (2025). Impact of digital payment adoption on consumer spending behavior in urban vs rural households in India. *International Journal of Social Impact*, 18(2), 50–62. https://ijsi.in/articles/1002050/

2. Sreenu, N. (2025). The role of digital finance and financing barriers in green innovation: A study of India. *Economic Change and Restructuring*, 58(82), 1–19. https://link.springer.com/article/10.1007/s10644-025-09923-x

3. Kumar, A., & Mohnot, R. (2023). The mediating effect of perceived trust in the adoption of cutting-edge financial technology among digital natives in the post-COVID-19 era. *Economies*, 11(12), 286. https://doi.org/10.3390/economies11120286

4. Mishra, N. (2023). Green fintech revolution: Assessing the impact of sustainable finance platforms on environmental and social outcomes. *ResearchGate*. https://www.researchgate.net/publication/379484138_Green_Fintech_Revolution_Assessing_The_Impact_Of_Sustainable_Finance_Platforms_On_Environmental_And_Social_Outcomes

5. Hossain, M., & Alam, M. (2025). Digital finance and green technology innovation in India: Exploring the role of financing constraints. *Quality & Quantity*, 59(4), 1–18. https://link.springer.com/article/10.1007/s11135-025-02291-8