

Leveraging Digital Finance for Driving Sustainable Financial Inclusion: A Study on the Hakkipikki Tribal Community in Mysuru District

Dr. Kiran Kumar¹, Mr. Dammurappa K^{2*}

¹Professor & Research Guide in Management, Karnatak Arts College, Karnatak University, Dharwad. Email id: kirantkc@gmail.com

^{2*}Research Scholar, Kousali Institute of Management Studies, Karnatak University, Dharwad. Email id: dammurappak01@gmail.com

ABSTRACT

Purpose – This research study aims to explore how digital financial services can drive sustainable financial inclusion.

Design/methodology/approach – Utilized statistical tools such as the Independent T-Test, One-Way ANOVA, and Pearson Correlation Analysis to examine the significant differences between respondents' demographic factors, perceptions, adoption of digital financial services, and financial inclusion.

Findings - The outcomes of statistical analysis underscore that the key factors assessing Hakkipikki tribal community users' inclination towards the uses of digital financial services for sustainable financial inclusion have a notable impact on actual digital finance product usage.

Originality/Value – To the best of the author's knowledge, no primary data study has been conducted for the respondents of the Hakkipikki tribal community. This research study utilizes 100 tribal respondents, which helps to increase the degree of freedom and provide reliable results to the existing body of knowledge. This study explores the transformative potential of digital finance in advancing sustainable financial inclusion, focusing on the Hakkipikki tribal community in Mysuru District, Karnataka. As marginalized groups face systemic barriers to formal financial services, digital financial technologies offer innovative pathways to bridge these gaps.

Keywords: Digital Finance, Financial Inclusion, Phone Banking, ATM Services, Debit Card Services, Credit Card Services, Online/Internet Banking, Hakkipikki tribal community, Perception, Adoption.

I. INTRODUCTION

Emerging business models and technological advancements are the foundations for innovative financial solutions. Financial Inclusion and Digital finance have numerous advantages to digital finance service providers, end users of finance services, governments, and the economy such as increasing financial access among poor individuals, reducing the cost of financial intermediation for banks and digital financial service providers, and increasing aggregate expenditure for governments. From 2010 onwards the World Bank and G20 have taken initiatives to increase financial inclusion in developing nations to help reduce poverty levels in developing and emerging economies (Ozil, 2018). Digital finance includes a wide array of innovative financial products, services, software, and customer engagement methods offered by fintech firms and modern financial service providers (Gomber, Koch, & Siering, 2017)

Digital finance has some merits. For example, digital finance can lead to greater financial inclusion, expansion of financial services to non-financial sectors, and the expansion of basic services to individuals since nearly 50% of people in the developing world already own a mobile phone (Digital Finance: Empowering the Poor via New Technologies, 2014). Digital innovation, particularly in financial services, serves as a transformative tool for improving the daily lives of many, especially underserved populations in developing nations. By addressing barriers like limited access to traditional banking, high transaction costs, and geographic constraints, digital financial services

empower individuals and communities to participate more actively in the formal economy. This, in turn, fosters national economic growth, promotes financial inclusion, and reduces economic inequality, enabling sustainable development (Bank, 2016).

In India, the coverage of digital finance services has expanded after the introduction of the JAM (Jan Dhan-Aadhar-Mobile) Trinity Scheme the Unified Payment Interface (UPI). Due to increase in Internet penetration in the country has also expanded the scope of digital finance services. During the time of demonetization and the COVID-19 pandemic, digital financial services became a savior for people and got a boost in its growth in India (Dinesh & Dogga, 2024).

Mobile Financial Services or mobile money are also form the core part of DFS and as phone-based payments (Srivastava , 2015).

Financial inclusion is one of the burning global topics. It involves not only access to a financial institution account but also ensuring everyone has affordable and valuable financial services, including debt management, investment, and wealth management. The Reserve Bank of India (RBI) introduced the concept of Financial Inclusion in the year of 2005. Its primary objective is to extend the economic blueprint to those who are financially or economically disadvantaged in society. Financial inclusion is one of the essential components of economic welfare and sustainable economic development. Extending opportunities for individuals, households, and firms to financial services will give you the path for financing economically viable investments, uplifting the underprivileged, and accelerating the economic expansion of a nation. Giving access to financial services such as insurance, loans, savings, and payment systems accessible to all sectors of the population nurtures their financial autonomy and heightens the nation's economic growth (Lal, 2017) . Financial inclusion not only helps in reducing poverty it also reduces the gap between the rich and poor by reducing the income inequality in the economy (Park & Mercado, Jr., 2015). Financial inclusion is viewed as a vital method for reducing destitution and advancing a nation's more extensive monetary improvement (Buckley & Malady, 2015).

Digital financial services enable low-income households to save money for investing in their small businesses and to set aside emergency funds for unforeseen expenses. Additionally, by connecting to digital payment systems, users can quickly and affordably send money to friends, family, or business partners, fostering better financial collaboration (Radcliffe & Voorhies, 2012). Achieving financial inclusion requires bridging the gap between cash and digital payments (Srivastava , 2015). Digital financial services are considered essential tools for improving financial inclusion (Buckley & Malady, 2015).

II. LITERATURE REVIEW

As per **Stijn Claessens, Thomas Glaessner, and Daniela Klingebiel (2000)** Electronic finance has the potential to improve the quality and scope of financial services and opportunities for trading risks and can provide widened access to financial services to a much greater set of retail and commercial clients by offering more cost-effective delivery of services.

As per **V Leeladhar (2006)** Financial inclusion involves providing affordable banking services to disadvantaged and low-income groups, ensuring universal access without discrimination. Banking for rural and poor communities should be viewed as a social obligation rather than a business opportunity. Banks must redesign strategies to integrate financial inclusion into their business models and CSR initiatives. Banks can achieve profitability through high-volume, low-margin transactions by leveraging technology and expertise, contributing to economic empowerment at the "bottom of the pyramid".

Khan & Mahapatra (2009) identified Seven key quality dimensions of Internet banking these are reliability, accessibility, user-friendliness, privacy/security, efficiency, responsiveness, and fulfillment—which were identified through principal component factor analysis. The study found that gender does not significantly influence the use or evaluation of Internet banking service quality. Among these, reliability received high satisfaction, while user-friendliness, privacy/security, and

fulfillment were less satisfactory from the consumer's perspective. Privacy/security and fulfillment were noted as having minimal impact on perceived service quality. Overall, the findings highlight areas for improvement in enhancing consumer satisfaction with Internet banking.

Ms. Paramjeet Kaur (2014) has identified that banks face high working costs in providing financial services to remote areas. The high maintenance cost of these accounts as well as the small ticket size of the transactions is also creating the problem. The problem of high transaction costs and outreach faced by the banks can be dealt with through the use of Information Technology solutions, such as mobile phones and smart cards, to create a database for credit risk management and pricing.

According to **Roy & Sahoo (2016)** the electronic payment system of any country faces several risks including bank failures, frauds, counter-party failures, etc. These risks can trigger disruptions in the electronic payment system. RTGS is a widely accepted means of electronic payment system amongst the banks and business firms but it requires a push on the retail side.

According to **Paramjit Sujlana and Chhavi Kiran (2018)** Financial inclusion in India has progressed in branch penetration, but inclusive growth efforts remain nascent. Rural areas still lack quality financial services despite advancements. Rapid technological changes have significantly bridged this gap.

According to **Mohammad Asif, Mohd Naved Khan, Sadhana Tiwari, Showkat K. Wani, and Firoz Alam (2023)** fintech businesses have significantly aided financial inclusion in this nation, especially for the middle class. These findings will be helpful for policy-makers working hard to bring every individual in this country into an organized financial system.

III.RESEARCH GAP

The prior research studies highlighted the importance of digital literacy, trust in financial systems, and infrastructure availability, there is an insufficient exploration of how these factors interact within the tribal context to either enable or hinder sustainable financial inclusion. The concept of digital finance as a tool for promoting financial inclusion has been widely studied in urban and rural contexts, with substantial evidence highlighting its benefits in improving access to financial services, reducing transaction costs, and fostering economic empowerment and most of the datasets are based on secondary data. However, research focusing specifically on marginalized tribal communities, such as the Hakkipikki tribal community in Mysuru district, remains sparse.

IV.RESEARCH QUESTIONS

Based on the research gap, the researcher has come across the following research questions for the study.

1. What is the level of awareness and adoption of digital financial services among the Hakkipikki tribal community in Mysuru District?
2. How has the use of digital financial services impacted the financial inclusion of the Hakkipikki tribal community?
3. How do cultural, linguistic, and technological factors affect the adoption of digital finance within the community?
4. What are the long-term impacts of digital finance on the sustainable financial inclusion of the Hakkipikki tribal community?
5. What role do government policies and financial institutions play in promoting digital financial inclusion for the Hakkipikki tribal community?

V. RESEARCH OBJECTIVES

The research objectives of the study are as follows:

1. To Study the perception, and adoption of digital financial services among the Hakkipikki tribal community.
2. To Study the differences in demographic factors of the respondents on the use of digital financial services.
3. To investigate the relationship between digital financial services and the sustainable financial inclusion of the Hakkipikki tribal community.

VI. RESEARCH HYPOTHESIS

1. There is a significant difference between the demographic factors of the Hakkipikki tribal community and digital financial services.
2. There is a significant relationship between digital financial services and the financial inclusion of the Hakkipikki tribal community.

VII. RESEARCH DESIGN

Research design is a structured framework or systematic plan outlining the methods and procedures necessary to collect, analyze, and interpret data to address the research questions or hypotheses effectively. It serves as a guide to ensure that the study is conducted efficiently, logically, and in a way that yields valid and reliable results (MCGRATH, 1995).

VIII. DATA COLLECTION, SAMPLING TECHNIQUE, AND SAMPLE SIZE

Primary data will be collected with the help of the structured interview schedule for this study. The sample has a direct bearing on the quality of the research. The sampling method is linked directly with the research's reliability, validity, replicability, and generalizability. Thus, in quantitative research, various sampling techniques and models for calculating the adequate sample size have been developed (Morse, 2025). This study employs convenience sampling as the sampling technique, and a total sample size of 100 respondents has been selected for the study.

IX. DATA ANALYSIS AND INTERPRETATION

Table 01: DEMOGRAPHIC PROFILE

Demographics	Category	Frequency	Percentage in %
Gender	Male	63	63
	Female	37	37
	Total	100	100
Age in Years	18-28	08	08
	28-38	40	40
	38-48	41	41
	48-58	09	09
	58 and above	02	02
	Total	100	100
Marital Status	Married	94	94
	Unmarried	06	06
	Divorced/Separated	00	00
	Widow/Widower	00	00
	Total	100	100
Highest Education	Illiterate	08	08
	Upto Higher Secondary	59	59
	Graduate	33	33
	Post-Graduate	00	00

	Total	100	100
Present Occupation	Employee	04	04
	Self-employed/Business	91	91
	Not Employed/Dependent/Student	05	05
	Total	100	100
Monthly income in ₹	0 - 15,000	06	06
	15,000 – 30,000	09	09
	30,000 – 45,000	19	19
	45,000 – 60,000	50	50
	60,000 – 75,000	16	16
	75,000 and above	00	00
	Total	100	100

Source: Processing of Primary Data in Jamovi

Table 01 represents the demographic profile of the Hakkipikki tribal community respondents including gender, age, marital status educational qualification, present occupation, and average monthly income. It has been observed from the above table that out of the total respondents, 63% are male respondents and 37% are female respondents. It can be observed that the majority of the respondents are male, as compared to female respondents. It is inferred that the majority of the respondents belong to the age group in the range of 38-48 years and as it was the highest group from which data has been collected, the second group belongs to the age group in the range of 28-38 years. It has been observed that the majority of the respondents are up to higher secondary school which indicates that the education level of the respondents is not a good level of education. When it comes to the present occupation of the respondents, it is inferred that the majority of the respondents of the study are the ones who belong to the Self-employed/Business category i.e. 91% of the respondents. It has been observed from the above table that out of the total respondents, 50% have an average monthly income in the range of ₹ 45,000 – 60,000 and it indicates that the majority of the respondents are earning between 45000 and 60000 thousand monthly.

Table 02: Statistical Analysis Description

Reliability of Data	Cronbach's Alpha Reliability test was used to determine the reliability of the sample.
Independent Sample T-test	To find the difference between gender and the use of digital finance.
One-Way ANOVA	To find the difference between age groups and the use of digital finance.
	To find the difference between education qualification and the use of digital finance.
	To find the difference between income groups and the use of digital financial services.
	To find the difference between present occupation and the use of digital financial services.
Pearson Correlation	Relationship among the factors of digital financial services and the factors of Financial Inclusion.

RELIABILITY ANALYSIS: Reliability Analysis deals with the checking of the internal consistency to find out the reliability of the questionnaire with the use of Cronbach's alpha coefficient. The value of the alpha coefficient ranges between 0 to 1. A value greater than 0.60 is considered to be acceptable.

Table 03: Scale Reliability Statistics

	Mean	SD	Cronbach's α
Scale	3.97	0.410	0.839

Source: Processing of Primary Data in Jamovi

The above table 3 shows the Cronbach's Alpha reliability test for the reliability measure of the scale used for the study. The value of Cronbach's Alpha is more than 0.70 in aggregate of all dimensions indicating the high level of internal consistency of the instruments.

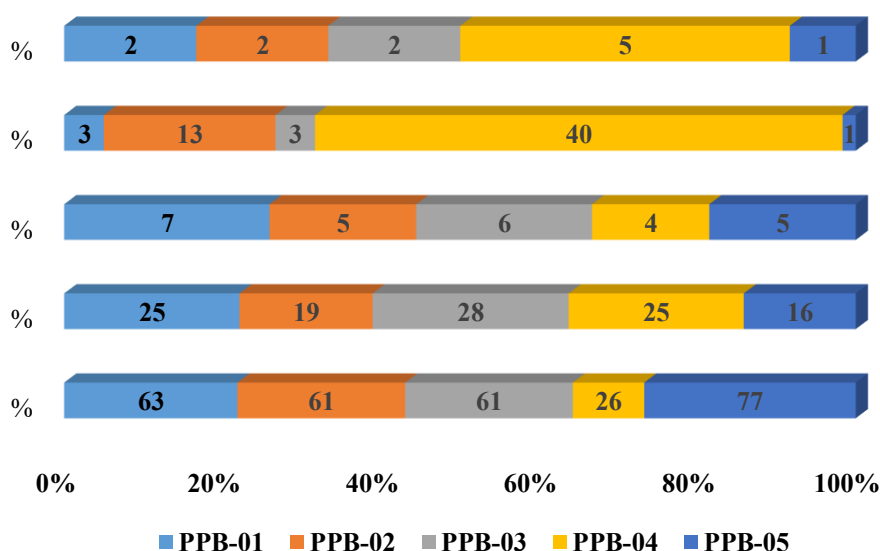
The internal consistency of the scale was evaluated using Cronbach's Alpha, which yielded a value of 0.839, indicating good reliability (NUNNALLY, 1978). The mean score of the scale was 3.97 (SD=0.410), suggesting that respondents on average tended to agree with the items. The low standard deviation reflects low variability among responses, supporting the reliability of the scale.

Research Objective 01: Perception and adoption of digital financial services

Table 04: Perception & adoption of Phone Banking

Phone Banking	Strongly Agree - 5		Agree - 4		Neutral - 3		Disagree - 2		Strongly disagree - 1	
	N	%	N	%	N	%	N	%	N	%
PPB-01	63	63	25	25	07	07	03	03	02	02
PPB-02	61	61	19	19	05	05	13	13	02	02
PPB-03	61	61	28	28	06	06	03	03	02	02
PPB-04	26	26	25	25	04	04	40	40	05	05
PPB-05	77	77	16	16	05	05	01	01	01	01

Figure 01: Perception and Adoption of Phone Banking



Source: Processing of Primary Data in Jamovi

Interpretation: Table 04 and Figure 01 illustrate the respondents' perceptions and adoption of phone banking services in their daily activities. Notably, 77% of the respondents agreed with the item 'PPB-005,' indicating that phone banking saves time. Additionally, 40% of the respondents disagreed with

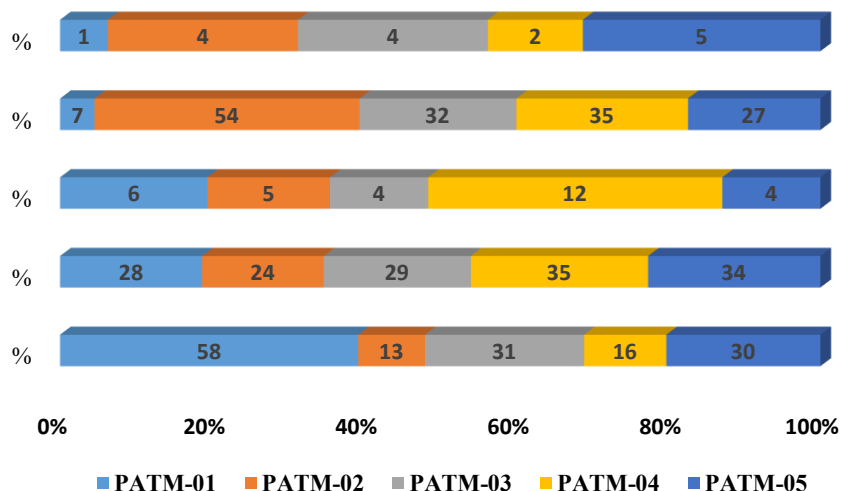
the item 'PPB-04,' which suggests that they do not perceive phone banking to have significant security issues.

Inference: Based on the data presented in Table 04 and Figure 01, it can be inferred that a majority of users perceive phone banking as a time-saving tool (as evidenced by 77% agreement with item 'PPB-005'). This suggests that time efficiency is a key driver of adoption. On the other hand, the disagreement by 40% of respondents with the item 'PPB-04' indicates a lack of significant concern regarding security issues among a substantial portion of the population. This implies that, for these respondents, perceived security risks are not a major barrier to the adoption of phone banking services.

Table 05: Perception and adoption of ATM Services

ATM Services	Strongly Agree - 5		Agree - 4		Neutral - 3		Disagree - 2		Strongly disagree - 1	
	N	%	N	%	N	%	N	%	N	%
PATM-01	58	58	28	28	06	06	07	07	01	01
PATM-02	13	13	24	24	05	05	54	54	04	04
PATM-03	31	31	29	29	04	04	32	32	04	04
PATM-04	16	16	35	35	12	12	35	35	02	02
PATM-05	30	30	34	34	04	04	27	27	05	05

Figure 02: Perception and Adoption of ATM Services



Source: Processing of Primary data in Jamovi

Interpretation: The table - 05 and figure - 02 illustrate respondents' perceptions and adoption of ATM services within their digital financial activities. Notably, 58% of respondents strongly agree that ATM services facilitate easy money withdrawal (PATM-01). Furthermore, 35% of respondents agree that they are interested in learning additional ATM features, such as cash deposits and passbook printing (PATM-04). However, 54% of respondents disagree with the statement that ATM services are cost-effective (PATM-02).

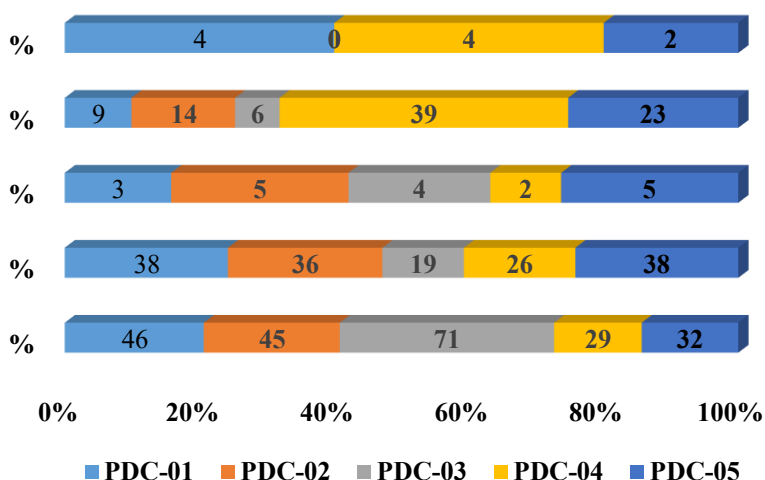
Inference: The Findings indicate that the majority of the respondents perceived and adopted that ATM services are well-regarded for their core function of enabling easy cash withdrawal, as evidenced by the high level of agreement among respondents. However, there is a significant opportunity to improve user engagement by promoting awareness of advanced features like cash

deposits and passbook printing. Additionally, addressing concerns about the cost-effectiveness of ATM services is crucial to ensuring broader satisfaction and adoption.

Table 06: Perception and adoption Debit Card Services

Debit Card Services	Strongly Agree - 5		Agree - 4		Neutral - 3		Disagree - 2		Strongly disagree - 1	
	N	%	N	%	N	%	N	%	N	%
PDC-01	46	46	38	38	03	03	09	09	04	04
PDC-02	45	45	36	36	05	05	14	14	00	00
PDC-03	71	71	19	19	04	04	06	06	00	00
PDC-04	29	29	26	26	02	02	39	39	04	04
PDC-05	32	32	38	38	05	05	23	23	02	02

Figure 03: Perception and Adoption of Debit Card Services



Source: Processing of Primary Data in Jamovi

Interpretation: The table – 06 and figure – 03 highlight the respondents' perceptions and adoption of debit card services. A majority (71%) strongly agree on the convenience of 24x7 usage (PDC-03). Significant agreement is seen for frequent usage (46%, PDC-01) and preference over cash (45%, PDC-02), indicating positive views on basic functionalities. However, 39% disagree on complete awareness of debit card features (PDC-04), pointing to gaps in advanced feature utilization.

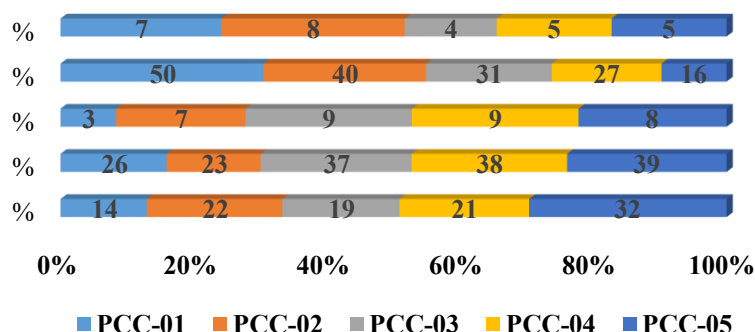
Inference: Debit cards are widely appreciated for their convenience and basic functionalities, such as 24x7 availability and preference over cash. However, the lack of complete awareness regarding advanced features highlights an opportunity for financial institutions to focus on educating users and promoting the broader capabilities of debit cards to enhance adoption and satisfaction.

Table 07: Perception and Adoption of Credit Card Services

Credit Card Services	Strongly Agree - 5		Agree - 4		Neutral - 3		Disagree - 2		Strongly disagree - 1	
	N	%	N	%	N	%	N	%	N	%
PCC-01	14	14	26	26	03	03	50	50	07	07
PCC-02	22	22	23	23	07	07	40	40	08	08

PCC-03	19	19	37	37	09	09	31	31	04	04
PCC-04	21	21	38	38	09	09	27	27	05	05
PCC-05	32	32	39	39	08	08	16	16	05	05

Figure 04: Perception and Adoption of Credit Card Services



Source: Processing of Primary Data in Jamovi

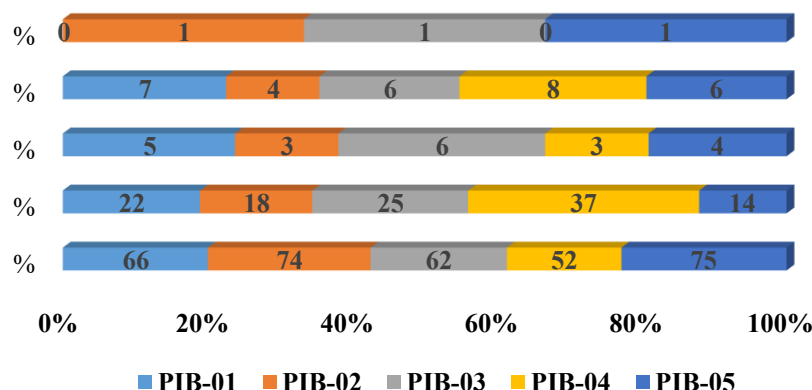
Interpretation: The table - 07 and figure - 04 above illustrate the respondents' perceptions and adoption of credit card services. Half (50%) of the respondents disagree with frequently using credit card services (PCC-01). Additionally, 39% of the respondents agree that using credit card services can save time in performing banking transactions, while 32% strongly agree with this statement (PCC-05).

Inference: The findings suggest that while a significant portion of respondents (50%) are hesitant to frequently use credit card services, a considerable percentage (39% agree and 32% strongly agree) recognize the time-saving benefits of credit card services in banking transactions. This indicates a potential gap between perception and utility, where respondents acknowledge the advantages of credit card services but may still refrain from frequent usage due to other concerns such as costs, security, or personal preferences.

Table 08: Perception and Adoption of Online/Internet Banking

Online/Internet Baking	Strongly Agree - 5		Agree - 4		Neutral - 3		Disagree - 2		Strongly disagree - 1	
	N	%	N	%	N	%	N	%	N	%
PIB-01	66	66	22	22	05	05	07	07	00	00
PIB-02	74	74	18	18	03	03	04	04	01	01
PIB-03	62	62	25	25	06	06	06	06	01	01
PIB-04	52	52	37	37	03	03	08	08	00	00
PIB-05	75	75	14	14	04	04	06	06	01	01

Figure 05: Perception and adoption of Online/Internet Banking



Source: Processing of Primary Data in Jamovi

Interpretation: Table – 08 and Figure - 05 illustrate the respondents' perceptions and adoption of Online/Internet Banking. 75% agree that it provides easy access to RTGS, IMP, and NEFT services (PIB-05), 66% find it easy to use (PIB-01), and 74% believe it saves time (PIB-02). Additionally, 62% find it easy to remember passwords (PIB-03), while 52% feel it has replaced cash payments (PIB-04). These findings highlight the convenience and growing adoption of Online/Internet Banking.

Inference: Based on the respondents' perceptions, it can be inferred that Online/Internet Banking is viewed positively and is gaining widespread acceptance. The high percentage (75%) of respondents agreeing that Online/Internet Banking facilitates access to essential services like RTGS, IMP, and NEFT indicates its significant role in simplifying financial transactions. The ease of use (66%) and time-saving benefits (74%) further suggest that these platforms are well-received for their convenience and efficiency. Additionally, the 62% agreement on the ease of remembering passwords implies that users find security measures manageable, while 52% agreeing that digital banking is replacing cash payments points to a shift toward a cashless society. These trends suggest a growing reliance on Online/Internet Banking for everyday financial needs.

Research Objective 02: To Study the differences in demographic factors of the respondents on the use of digital financial services.

Research Hypothesis: There is a significant difference between the demographic factors of the respondents and the digital financial services.

Statistical Analysis: To examine the impact of demographic factors on digital financial services usage, parametric statistical tests were employed. An independent samples t-test was conducted to assess differences based on gender, while ANOVA was utilized to analyze variations across age, average monthly income, educational attainment, and occupation.

H₀: There is no significant difference between gender and digital financial services.

H₁: There is a significant difference between gender and digital financial services.

Table 09 : Group Statistics for Gender

Digital Financial Services	Gender	N	Mean	S.D	Std. Error Mean
Phone Banking	Male	63	4.20	0.620	0.0781
	Female	37	4.22	0.702	0.115

ATM Services	Male	63	3.55	0.572	0.0720
	Female	37	3.47	0.647	0.106
Debit Card Services	Male	63	3.98	0.675	0.0851
	Female	37	3.98	0.662	0.109
Credit Card Services	Male	63	3.19	0.816	0.103
	Female	37	3.52	0.762	0.125
Online/Internet Banking	Male	63	4.45	0.664	0.0836
	Female	37	4.51	0.651	0.107

Source: Processing of Primary Data in Jamovi

Table 10: Independent Sample t-test: Gender

	Levene's Test for Equality of Variances		T-test for Equality Means						
	F	Sig	t	df	Sig(2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the difference	
								Lower	Upper
Phone Banking	2.13	0.148	0.137	98.0	0.891	0.0184	0.135	-0.249	0.286
ATM Services	0.703	0.404	-0.609	98.0	0.544	-0.0758	0.124	-0.322	0.171
Debit Card Services	0.00354	0.953	-0.00247	98.0	0.998	-3.48e-4	0.139	-0.276	0.275
Credit Card Services	0.140	0.709	2.02	98.0	0.046	0.334	0.165	0.00633	0.661
Online/Internet Banking	0.00634	0.937	0.397	98.0	0.692	0.0541	0.136	-0.217	0.325

Source: Processing of Primary Data in Jamovi

Interpretation: Table - 10 provides a comparison of male and female respondents regarding their use of digital financial services. The findings reveal that, on average, there is no significant difference between male and female respondents in their perception of these services, except for the construct of Credit Card Services ($p = 0.046$). The p-values for Phone Banking ($p = 0.891$), ATM Services ($p = 0.544$), Debit Card Services ($p = 0.998$), and Online/Internet Banking ($p = 0.692$) are greater than 0.05, indicating that the null hypothesis is accepted for these constructs.

Inference: The findings suggest that male and female respondents generally perceive digital financial services similarly, with no significant differences observed in most constructs, including Phone Banking, ATM Services, Debit Card Services, and Online/Internet Banking. However, a significant gender-based difference is identified in the perception of Credit Card Services, where the p-value ($p = 0.046$) indicates that gender influences respondents' views on this particular construct. This highlights Credit Card Services as an area that may require targeted strategies to address gender-specific needs or preferences.

H₀: There is no significant difference between the age and the use of digital financial services.

H₁: There is a significant difference between the age and the use of digital financial services.

Table 11: One Way ANOVA: Age

Age in Years and Digital Financial Services		Phone Banking	ATM Services	Debit Card Services	Credit Card Services	Online/Internet Banking
18-28	Mean rank	4.17	3.73	3.98	3.08	4.38
28-38	Mean rank	4.36	3.58	4.12	3.42	4.68
38-48	Mean rank	4.21	3.55	3.89	3.33	4.30
48-58	Mean rank	3.56	2.91	3.67	2.78	4.29
58 & above	Mean rank	4.40	3.60	4.70	4.20	5
df	Between Groups	04	04	04	04	04
	Within groups	95	95	95	95	95
	Total	99	99	99	99	99
F	Between Groups	3.09	2.89	1.71	2.03	2.41
Sig.		0.020	0.026	0.154	0.096	0.054
Null Hypothesis		Rejected	Rejected	Accepted	Accepted	Accepted

Source: Processing of Primary Data in Jamovi

Interpretation: Table - 11 presents the differences between age groups and their use of digital financial services. For the constructs 'perception of phone banking' ($p = 0.020$) and 'perception of ATM services' ($p = 0.026$), the p-values are less than 0.05, indicating statistical significance. Therefore, the null hypothesis is rejected for these constructs. However, the p-values for 'debit card services' ($p = 0.154$), 'credit card services' ($p = 0.096$), and 'perception of online/internet banking' ($p = 0.054$) exceed 0.05, suggesting no significant difference. Hence, the null hypothesis is accepted for these constructs.

Inference: The findings suggest that age groups differ significantly in their perception of phone banking and ATM services, as indicated by statistically significant p-values ($p < 0.05$). This implies that these constructs are influenced by age-related factors. Conversely, no significant differences were observed among age groups for perceptions of debit card services, credit card services, and online/internet banking ($p > 0.05$), indicating that these constructs are not substantially impacted by age.

H_0 : There is no significant difference between the educational qualification and perception and adoption of digital finance.

H_1 : There is a significant difference between the education qualification and perception and adoption of digital finance.

Table 12: One Way ANOVA: Educational Qualification

Educational Qualification and Digital Financial Services		Phone Banking	ATM Services	Debit Card Services	Credit Card Services	Online/Internet Banking
Illiterate	Mean rank	3.45	3.10	3.52	3.15	3.75
Upto PUC	Mean rank	4.29	3.41	3.91	3.17	4.47
Graduate	Mean rank	4.24	3.81	4.24	3.62	4.65

Post-Graduate	Mean rank	-	-	-	-	-
df	Between Groups	02	02	02	02	02
	Within groups	97	97	97	97	97
	Total	99	99	99	99	99
F	Between Groups	6.76	7.85	5.05	3.67	6.74
Sig.		0.002	0.000	0.008	0.029	0.002
Null Hypothesis		Rejected	Rejected	Rejected	Rejected	Rejected

Source: Processing of Primary Data in Jamovi

Interpretation: Table - 12 illustrates the relationship between the respondents' educational qualifications and their perception and adoption of digital financial services. The p-values for Phone Banking ($p = 0.002$), ATM Services ($p = 0.000$), Debit Card Services ($p = 0.008$), Credit Card Services ($p = 0.029$), and Online/Internet Banking ($p = 0.002$) are all less than the significance level of 0.05. Consequently, the null hypothesis is rejected, indicating a statistically significant association between educational qualifications and the adoption of these digital financial services.

Inference: Based on the statistical analysis, there is sufficient evidence to conclude that respondents' educational qualifications significantly influence their perception and adoption of digital financial services, including Phone Banking, ATM Services, Debit Card Services, Credit Card Services, and Online/Internet Banking.

H₀: There is no significant difference between the Occupation and perception and adoption of digital finance.

H₁: There is a significant difference between the Occupation and perception and adoption of digital finance.

Table 13: One Way ANOVA: Occupation

Occupation and Digital Financial Services		Phone Banking	ATM Services	Debit Card Services	Credit Card Services	Online/Internet Banking
Employee	Mean rank	4.20	3.80	4.30	3.90	5.0
Self-employed/Business	Mean rank	3.16	2.84	3.48	3.04	4.20
Not Employed/Dependent/Student	Mean rank	4.27	3.54	4.00	3.30	4.47
df	Between Groups	02	02	02	02	02
	Within groups	97	97	97	97	97
	Total	99	99	99	99	99
F	Between Groups	7.90	3.96	1.93	1.35	1.75
Sig.		0.000	0.022	0.151	0.263	0.178
Null Hypothesis		Rejected	Rejected	Accepted	Accepted	Accepted

Source: Processing of Primary Data in Jamovi

Interpretation: Table - 13 highlights the relationship between the respondents' current occupation and their perception and adoption of digital financial services. For Phone Banking ($p = 0.000$) and

<http://jier.org>

ATM Services ($p = 0.0022$), the p-values are less than 0.05, indicating a statistically significant relationship. Thus, the null hypothesis is rejected for these services. Conversely, the p-values for Debit Card Services ($p = 0.151$), Credit Card Services ($p = 0.263$), and Online/Internet Banking ($p = 0.178$) exceed 0.05, suggesting no statistically significant relationship. Therefore, the null hypothesis is accepted for these services.

Inference: There is a statistically significant relationship between the respondents' current occupation and their perception and adoption of Phone Banking and ATM Services, as indicated by p-values less than 0.05. However, no statistically significant relationship exists between the respondents' current occupation and their perception and adoption of Debit Card Services, Credit Card Services, and Online/Internet Banking, as the p-values for these services exceed 0.05.

H₀: There is no significant difference between the average monthly income and the perception and adoption of digital finance.

H₁: There is a significant difference between the average monthly income and the perception and adoption of digital finance.

Table 14: One Way ANOVA: Average monthly Income

Average monthly income and Digital Financial Services		Phone Banking	ATM Services	Debit Card Services	Credit Card Services	Online/Internet Banking
0 – 15,000	Mean rank	3.27	2.90	3.50	2.93	4.33
15,000 – 30,000	Mean rank	4.29	3.60	3.98	3.24	4.16
30,000 – 45,000	Mean rank	4.52	3.62	4.19	3.62	4.72
45,000 – 60,000	Mean rank	4.18	3.54	4.01	3.25	4.44
60,000 – 75,000	Mean rank	4.24	3.52	3.84	3.32	4.51
75,000 & Above	Mean rank	-	-	-	-	-
df	Between Groups	04	04	04	04	04
	Within groups	95	95	95	95	95
	Total	99	99	99	99	99
F	Between Groups	4.99	1.86	1.48	1.11	1.30
Sig.		0.001	0.124	0.213	0.356	0.276
Null Hypothesis		Rejected	Accepted	Accepted	Accepted	Accepted

Source: Processing of Primary Data in Jamovi

Interpretation: Table-14 highlights the relationship between the respondents' average monthly income and their perception and adoption of digital financial services. For Phone Banking ($p = 0.001$), the p-value is less than 0.05, indicating a statistically significant relationship. Thus, the null hypothesis is rejected for perception and adoption of phone banking. Conversely, the p-values for ATM Services ($p = 0.124$), Debit Card Services ($p = 0.213$), Credit Card Services ($p = 0.356$), and Online/Internet Banking ($p = 0.276$) exceed 0.05, suggesting no statistically significant relationship. Therefore, the null hypothesis is accepted for these services.

Inference: The analysis demonstrates that there is a statistically significant relationship between respondents' average monthly income and their perception and adoption of phone banking, as evidenced by a p-value of 0.001 ($p < 0.05$). This finding supports the rejection of the null hypothesis for phone banking. However, for ATM services ($p = 0.124$), debit card services ($p = 0.213$), credit

card services ($p = 0.356$), and online/internet banking ($p = 0.276$), the p -values exceed the 0.05 threshold, indicating no statistically significant relationship between average monthly income and perception and adoption of these services. As a result, the null hypothesis is retained for these services.

Research Objective 03: To investigate the relationship between digital financial services and the sustainable financial inclusion of the Hakkipikki tribal community.

Research Hypothesis: There is a significant relationship between digital financial services and financial inclusion.

Statistical Analysis: Correlation analysis was employed to investigate the relationship between digital financial services and the financial inclusion of the Hakkipikki tribal community.

Table 15: Correlation Analysis for Digital Financial Services and Financial Inclusion

Digital Financial Services	Financial Inclusion	
	Pearson's r 0.487***	
	df	98
	p-value	<0.001
	95% CI Upper	0.623
	95% CI Lower	0.321
	N	100

Note: *** $p < .001$

Source: Processing of Primary Data in Jamovi

Interpretation: Pearson correlation of digital financial services and financial inclusion of the Hakkipikki tribal community was found to be moderately positive and statistically significant ($r = 0.487$, $p < 0.001$). Hence, H1 was supported.

Inference: The analysis revealed a moderately positive and statistically significant correlation between digital financial services and financial inclusion within the Hakkipikki tribal community ($r = 0.487$, $p < 0.001$). This finding supports the hypothesis (H1), indicating that greater perception and adoption of digital financial services is associated with improved financial inclusion in this population.

X. FINDINGS OF THE STUDY

It was found that the perception and adoption of phone banking, ATM services, Debit Card Services, Credit Card Services, and Internet or Online Banking of digital financial services significantly predict the improvement of financial inclusion of the Hakkipikki Tribal Community Individuals. In the current research study perception and adoption of Phone banking, ATM Services, Debit Card services, Credit Card services, and Online or Internet Banking of Digital Finance were taken as Independent variable, while Access to banking services, Usage of Banking services, and Barriers to Banking Services of Financial Inclusion were taken as Dependent variable.

- The study reveals that the majority of respondents, specifically 91%, are engaged in self-employment or business activities. This high proportion indicates a strong inclination toward entrepreneurial ventures of Hakkipikki Tribal Community Individuals.
- Table 04 and Figure 01 indicate that 77% of users perceive phone banking as a time-saving tool, highlighting time efficiency as a key adoption driver.
- The study revealed that the majority of respondents view digital financial services positively for their primary function of enabling easy cash withdrawals.
- Male and female respondents generally perceived digital financial services similarly, with no significant differences in constructs such as Phone Banking, ATM Services, Debit Card Services, and Online/Internet Banking.

- 48.7% of the correlation existed between digital financial services and financial inclusion. It indicates that a higher amount of perception and adoption of digital financial services is closely associated with improved financial inclusion.

XI.LIMITATIONS AND FUTURE SCOPE FOR RESEARCH

The study undertook the following limitations:

- Due to time constraints and the inaccessibility of selected respondents across the large study area, the research study is limited to a sample size of 100 respondents.
- This study is limited to the Hakkipikki tribal community in Mysuru district of Karnataka state.
- As this research study is limited to the Mysuru district, the outcome of the study may not apply to other areas.

The researchers may consider the following areas as potential areas for further research in this area of study:

- A longitudinal study with the appropriate measures/ tools can further explain the growth in the perception and adoption of digital finance for driving sustainable financial inclusion.
- Future research could explore the impact of contextual factors, including cultural norms, regulatory frameworks, religious beliefs, and social networks, on the widespread adoption of digital finance among tribal communities.

XII. CONCLUSION

This study helps in understanding the perception and adoption of digital financial services in the form of phone banking, ATM services, Debit Card Services, Credit Card Services, and online or Internet Banking of the Hakkipikki Tribal Community contributing to Financial Inclusion. It was found in the current research study that the use of digital financial services is a significant predictor of sustainable financial inclusion. It was also found that the uses of digital finance by the Hakkipikki tribal community individuals positively impacted the improvement of financial inclusion. The dissection of data revealed that the majority of the Hakkipikki tribal community respondents belong to the self-employed or business occupation despite less education.

This study further concludes that the situation of leveraging the digital financial services in the tribal area like Hakkipikki tribal community of Mysuru district, Karnataka state is at satisfactory level. To further improve the level of financial inclusion, measures must be taken to change the perceived image of digital finance in the eyes of the tribal communities. This study suggests that the perception and adoption of tribal individuals towards using digital financial services have a significant impact on financial inclusion.

XIII. REFERENCES

1. Asif, M., Khan, M., Tiwari, S., Wani, S., & Alam, F. (2023, 2 15). The Impact of Fintech and Digital Financial Services on Financial Inclusion in India. *Journal of Risk and Financial Management*, 16(122), 1-12. doi: <https://doi.org/10.3390/jrfm16020122>
2. Khan, M. S., & Mahapatra, S. S. (2009). Service quality evaluation in internet banking: an empirical study in India. *Int. J. Indian Culture and Business Management*, 2(1), 30-46. Retrieved 12 1, 2024
3. Bank, A. D. (2016). *Digital Financial Services in the Pacific Experiences and Regulatory issues*. Mandaluyong City, Philippines: Asian Development Bank. Retrieved 1 5, 2025
4. Buckley, R., & Malady, L. (2015). Building consumer demand for digital financial services – the new regulatory frontier. *The Journal of Financial Perspectives: FinTech*, 3(3). Retrieved 12 10, 2024

5. Claessens, S., Glaessner, T., & Klingebiel, D. (2000). *Electronic Finance: Reshaping the Financial Landscape Around the World*. The World Bank. Retrieved 12 19, 2024
6. *Digital Finance: Empowering the Poor via New Technologies*. (2014, 4 10). Retrieved 1 1, 2025, from World Bank Group: <https://www.worldbank.org/en/news/feature/2014/04/10/digital-finance-empowering-poor-new-technologies>
7. Dinesh, S. A., & Dogga, S. (2024, 7-9). Constructing a Composite Index: Assessing Digital Financial Inclusion in India. *SHODH SAGAR Universal Research Reports*, 11(4), 327-340. doi: <https://doi.org/10.36676/urr.v11.i4.1432>
8. Ghosh, C., & Chaudhury, R. H. (2020, 12 1). Determinants of digital finance in India. (Routledge, Ed.) *INNOVATION AND DEVELOPMENT*, 1-20. doi: <https://doi.org/10.1080/2157930X.2020.1850012>
9. Gomber, P., Koch, J.-A., & Siering, M. (2017). *Digital Finance and FinTech: Current Research and Future Research Directions*. Retrieved 1 6, 2025
10. Kaur, M. P. (2014, 11). A STUDY ON FINANCIAL INCLUSION - ROLE OF INDIAN BANKS IN IMPLEMENTING A SCALABLE AND SUSTAINABLE FINANCIAL INCLUSION STRATEGY. *International Journal of Management (IJM)*, 5(11), 103-110. Retrieved 1 1, 2025
11. Lal, T. (2017, 9 17). Impact of financial inclusion on poverty alleviation through cooperative banks. *International Journal of Social Economics*, 45(5), 808-828. doi:DOI 10.1108/IJSE-05-2017-0194
12. LEELADHAR, V. (2006). *Taking Banking Services to the Common Man - Financial Inclusion*. Reserve Bank of India Buletin. Retrieved 11 24, 2024
13. MCGRATH, J. (1995). METHODOLOGY MATTERS: DOING RESEARCH IN THE BEHAVIORAL and SOCIAL SCIENCES. *Readings in Human-Computer Interaction*, 152-169. doi:<https://doi.org/10.1016/B978-0-08-051574-8.50019-4>
14. MICHELLE, A. M. (2016). *THE EFFECT OF DIGITAL FINANCE ON FINANCIAL INCLUSION IN THE BANKING INDUSTRY IN KENYA*. Nairobi: UNIVERSITY OF NAIROBI. Retrieved 1 1, 2025
15. Morse, J. (2025, 1 07). *Sage*. doi:<https://doi.org/10.4135/9781483349015.n16>
16. NUNNALLY, J. (1978). An Overview of Psychological Measurement. *B. B. Wolman (ed.), Clinical Diagnosis of Mental Disorders*, 97-146. doi:doi:10.1007/978-1-4684-2490-4_4
17. Ozil, P. K. (2018, 3 17). Impact of digital finance on financial inclusion and stability. *Borsa Istanbul Review*, 18(4), 329-340. Retrieved 12 10, 2024
18. Park, C.-Y., & Mercado, Jr., R. (2015). *Financial Inclusion, Poverty, and Income Inequality in Developing Asia*. Manila: Asian Development Bank (ADB Economics Working Paper Series). Retrieved 1 1, 2025
19. Radcliffe, D., & Voorhies, R. (2012). *A Digital Pathway to Financial Inclusion*. Bill & Melinda Gates Foundation. Retrieved 10 10, 2024
20. ROY, D., & SAHOO, A. (2016, 4). Payment Systems in India: Opportunities and Challenges. *Journal of Internet Banking and Commerce*, 21(2), 1-48. Retrieved 1 6, 2025
21. Siddik, M., & Kabiraj, S. (2020). Digital Finance for Financial Inclusion and Inclusive Growth. In P. Macmillian, B. George, & J. Paul (Eds.), *Digital Transformation in Business and Society Theory and Cases* (pp. 155-168). Cham, Switzerland AG: Palgrave Macmillan. doi:https://doi.org/10.1007/978-3-030-08277-2_10
22. Srivastava, D. (2015, 3). Financial Inclusiveness: The role of mobile money and digital financial services. *SOCRATES*, 3(1), 95-112.
23. Sujlana, P., & Kiran, C. (2018, 4). A Study on Status of Financial Inclusion in India. *International Journal of Management Studies*, 5(2(3)), 96-104. doi:[http://dx.doi.org/10.18843/ijms/v5i2\(3\)/12](http://dx.doi.org/10.18843/ijms/v5i2(3)/12)