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Social Welfare Schemes and Digital Payment Systems: An Analysis of Beneficiary Satisfaction in Mandya District

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Abstract

This study examines the satisfaction of beneficiaries towards social welfare schemes delivered through Digital Payment Systems (DPS) in Mandya district, Karnataka. DPS platforms, including Direct Benefit Transfer (DBT) and Aadhaar Enabled Payment System (AePS), have transformed welfare delivery by reducing delays, increasing transparency, and improving accessibility. A structured questionnaire was administered to 136 respondents, and data was analyzed using descriptive statistics and one-sample t-tests. Findings reveal overall high satisfaction, particularly in accessibility and availability, while internet and mobile network reliability scored lowest. All variables showed statistically significant differences ($p < 0.05$), leading to the rejection of the null hypothesis. The study recommends improving network infrastructure and enhancing digital literacy to further strengthen welfare delivery.

Keywords: Digital Payment System, Beneficiary Satisfaction, Social Welfare Schemes, Financial Inclusion.

Introduction

The progress of a society is often measured by how effectively it supports its most vulnerable members. In India, social welfare schemes have long played a crucial role in reducing poverty, enhancing social security, and promoting inclusive growth. These programmes such as pensions, subsidies, healthcare benefits, and agricultural assistance aim to provide financial relief and equal opportunities to disadvantaged groups. Traditionally, welfare benefits were distributed through manual processes involving multiple intermediaries. While these systems reached many, they were often plagued by delays, leakages, duplication of beneficiaries, and lack of transparency. Rural households faced additional challenges such as travelling long distances to government offices, limited banking access, and complex procedures.

The advent of Digital Payment Systems (DPS) has transformed welfare delivery. Platforms like Direct Benefit Transfer (DBT), Aadhaar Enabled Payment System (AePS), and Unified Payments Interface (UPI) allow benefits to be transferred directly to beneficiaries' bank accounts, reducing delays and curbing corruption. DPS ensures greater transparency, faster transactions, and more secure fund transfers, aligning with the government's *Digital India* vision.

However, technology alone does not guarantee success. The real measure of effectiveness lies in the satisfaction of beneficiaries. Satisfaction reflects not only timely receipt of benefits but also eases of access, reliability, and trust in the system. For many rural beneficiaries, limited digital literacy, poor connectivity, biometric mismatches, and inadequate support systems can reduce the overall positive impact of DPS.

Karnataka, with its diverse population and significant rural base, offers a relevant context for studying satisfaction in welfare delivery. Mandya district, in particular, has a large proportion of agricultural and low-income households that depend heavily on welfare schemes. While DPS has improved speed and reduced middlemen in benefit distribution, challenges like technical glitches and lack of procedural awareness persist.

This study focuses on assessing satisfaction towards social welfare schemes provided through DPS, examining factors such as timeliness, ease of use, transparency, and accessibility. It also seeks to understand how demographic factors like age, education, income, and area of residence influence satisfaction levels. Understanding satisfaction is vital because it affects not only individual experiences but also the overall success and sustainability of welfare schemes. Satisfied beneficiaries are more likely to continue participating, comply with scheme requirements, and adopt other digital services, fostering broader financial inclusion. Conversely, dissatisfaction can discourage engagement and hinder policy outcomes.

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Review of Literature

Bansal, V. (2022) examined how digital financial inclusion influences women's empowerment and financial education in emerging economies, with a focus on India. Using a quantitative survey-based approach, it examined women's access to mobile banking, digital payments, and entrepreneurial activity. Results showed strong uptake of digital financial tools among younger women, yet limited engagement in entrepreneurship. The findings highlighted the role of technology in enhancing financial autonomy while underscoring persistent barriers such as limited financial literacy and cultural norms. The study suggested for targeted, inclusive financial education and policy interventions to support women's economic participation and digital empowerment [3].

Achutamba, V *et al*., (2022) highlighted the changes that have taken place recently in the payment system in India. The main purpose of the study was to understand how people have made a greater move towards digital payments and how it is going to be adopted by different people from different age groups, gender and occupation. This study covered the awareness perception and behaviour of general public towards the change in payment system from traditional to digital. The primary data for this study was collected by circulating a Google form to the general public and the sample size was 100. Statistical tools like chi square test, paired T test, ANOVA and graphical presentations were used. It was found that COVID-19 has brought change in the method of payment from traditional to digital. They were also aware about various modes of digital payments but they lack trust in the usage of digital payments. The authors concluded that people might now avoid themselves from using digital payments but if the banks and government take proper measures, people will definitely switch to digitalised payments [1].

Balaji, C H *et al*., (2022) focused on the analysis of the adoption level of digital payment system by customers. For the purpose of the study primary and secondary data was collected. Primary data was collected from the close ended questionnaire and secondary data from articles, journals and industry reports. Convenient sampling was considered for the study. The responses from the respondents were analysed using the simple percentage analysis and chi square test. From the study it was found that there is a rise of use in digital payments after demonetization in both urban and rural areas, but majority of the respondents were concerned about the safety in the usage of online transaction. The authors concluded by suggesting that banks should take effective measures in creating awareness towards the effective usage of technology and security [2].

Chandrashekhar, C. B. *et al*. (2023) examined the expanding role of digital finance in promoting financial inclusion in India. The study based on both survey-based primary data and secondary research, found that digital finance has enhanced access, affordability, and efficiency of financial services, particularly in urban areas. Services like mobile wallets and UPI emerged as the most commonly used tools, valued for their speed and convenience. The research also emphasized the need for stronger digital literacy initiatives, improved cyber security, and supportive policy frameworks to extend these benefits to underserved populations. It concluded that digital finance holds significant promise for inclusive growth, but achieving this requires coordinated efforts from government, financial institutions, and civil society [4].

De Souza, M.F. *et al* (2023) examined the influence of UPI on consumer usage trends in Goa. The authors focused on levels of awareness, frequency of use, user satisfaction, and potential risks. Data was gathered from 210 respondents through structured questionnaires, complemented by informal interviews and secondary research. Findings showed widespread adoption of UPI, especially among youth and tech-savvy individuals, driven primarily by the convenience, accessibility, and ease of transactions it offers. Google Pay and PhonePe were identified as the most commonly used apps. However, issues such as digital fraud, internet dependence, and privacy concerns still pose challenges. The study underscored UPI's crucial role in expanding digital financial access and calls for enhanced user education and system improvements to support its continued growth. The insights presented in the study are valuable for banks, fintech developers, and policy strategists aiming to strengthen digital payment systems in India [6].

Chatni, S. C. *et al*. (2022) explored the role of the Aadhaar-enabled Payment System (AePS) in the digital transformation of banking services in India, focusing on its development, functionality, and impact on financial inclusion. AePS, developed by the National Payments Corporation of India (NPCI), enables banking transactions using Aadhaar-based biometric authentication through micro-ATMs. The research highlighted the increasing adoption of AePS, particularly in rural and semi-urban areas, by analyzing transaction trends from April 2021 to March 2022. Statistical tools, including trend projection and two-sample t-tests, revealed that Off-us transactions (interbank) are significantly higher than On-us transactions (intrabank), indicating a greater reliance on AePS for interbank services. The study concluded that AePS is a key driver in India's digital banking evolution, facilitating secure, accessible, and inclusive financial services across the country [5].

Objectives of the Study

The main objectives of the study are as follows:

i). To study the demographic profile of the respondents

ii). To examine the satisfaction level towards the social welfare schemes services provided through digital payment system

Hypothesis of the Study

H0: There is no significant difference in the satisfaction level of beneficiaries towards the social welfare schemes services provided through the digital payment system.

H1: There is a significant difference in the satisfaction level of beneficiaries towards the social welfare schemes services provided through the digital payment system.

Research Methodology

The research utilized a descriptive design to evaluate beneficiary satisfaction regarding social welfare programs implemented through Digital Payment Systems (DPS) in the Mandya district of Karnataka. Primary data was gathered from 136 participants through a structured questionnaire, employing convenience sampling due to its accessibility and time limitations. This approach was suitable as the study sought to obtain feedback directly from beneficiaries who actively utilize DPS. A sample size of 136 was deemed sufficient for producing dependable results within the study's context, adhering to the common guideline of having over 100 respondents to ensure statistical validity in social science research. The questionnaire assessed areas such as accessibility, usability, reliability, and availability of services. The data was analyzed using descriptive statistics (mean and

standard deviation) to uncover satisfaction trends, and one-sample t-tests were employed to evaluate the significance of satisfaction levels compared to a neutral benchmark. Statistical software was utilized for the analysis to guarantee accuracy and validity.

Data Analysis and Interpretation

Demographic Profile of the Respondents

The demographic profile of the 136 respondents was analyzed on the basis of gender, age, educational qualification, occupation, and monthly income. This section provides a detailed view of the composition of the respondents.

Gender of the Respondents

Gender distribution of respondents is an important demographic factor.
It helps in understanding the proportion of male and female participants.
The respondents were therefore classified based on their gender.

Table 1: Gender of the Respondents

Gender	No. of Respondents	Percentage
Male	61	45
Female	75	55
Total	136	100

Source: *Primary Data*

The majority of respondents were female (55%), indicating slightly higher female participation compared to males (45%). This distribution suggests that women were more engaged in the survey process, which may influence the gender-based findings.

Age of the Respondents

Age plays a key role in demographic analysis of respondents.
It shows the participation of people from different life stages.
Hence, respondents were grouped into various age categories.

Table 2: Age wise distribution

Age Group	No. of Respondents	Percentage
Below 25 years	20	14.7
26-35 years	38	27.9
36-45 years	45	33.1
Above 45 years	33	24.3
Total	136	100

Source: *Primary Data*

The largest proportion of respondents belongs to the 36–45 years category (33.1%), followed by the 26–35 years group (27.9%). This indicates that the survey captured responses from a mature and economically active age bracket, which can provide informed perspectives.

Education of the Respondents

Education reflects the academic background of the respondents.
It gives an idea of their literacy and qualification levels.
The respondents were categorized according to their educational qualifications.

Table 3: Education Wise Distribution

Educational Qualification	No. of Respondents	Percentage
Primary Education	10	7.4
Secondary Education	30	22.1
Undergraduate Degree	52	38.2
Post Graduate Degree	32	23.5
Professional Courses	12	8.8
Total	136	100

Source: *Primary Data*

A significant proportion of respondents (38.2%) are undergraduates, followed by postgraduates (23.5%). This suggests that the majority of the sample is relatively well-educated, which may positively influence awareness and decision-making capacity.

Occupation of the Respondents

Occupation provides insight into the working status of respondents.
It indicates the type of employment or engagement they are involved in.
Thus, respondents were classified based on their occupation.

Table 4: Occupation wise distribution

Occupation	No. of Respondents	Percentage
Government Employee	25	18.4
Private Sector Employee	40	29.4
Self Employed	28	20.6
Student	22	16.2
Home maker	21	15
Total	136	100

Source: *Primary Data*

Private sector employees form the largest group (29.4%), followed by self-employed individuals (20.6%). The diversity in occupation ensures that the study includes perspectives from multiple economic segments.

Income of the Respondents

Income represents the financial background of the respondents.
It shows the earning capacity of different households.
The respondents were grouped according to their monthly income.

Table 5: Monthly Income Wise Distribution

Monthly Income	No. of Respondents	Percentage
Below Rs.10,000	18	13.2
Rs.10,001-Rs.20,000	35	25.7
Rs.20,001-Rs.30,000	40	29.4
Rs.30,001-Rs.50,000	28	20.6
Above Rs.50,000	15	11
Total	136	100

Source: *Primary Data*

Nearly one-third (29.4%) of respondents earn between ₹20,001 and ₹30,000 monthly, indicating a concentration in the middle-income range. This distribution suggests a balanced mix of low, middle, and higher-income respondents.

Hypothesis

H_0: There is no significant difference in the satisfaction level of beneficiaries towards the social welfare schemes services provided through the digital payment system.

H_1: There is a significant difference in the satisfaction level of beneficiaries towards the social welfare schemes services provided through the digital payment system.

Table 6

Sl. No.	Variables	Mean	Standard Deviation
1	Ease of using the digital payment system.	3.50	0.979
2	Clarity of instructions provided for using the system.	3.67	0.887
3	Comfort level using the system independently.	3.55	0.990
4	User-friendliness of the system interface.	3.85	0.930
5	Ease of completing transactions using the system.	3.75	1.074
6	Availability of the digital payment system in my area.	3.84	0.996
7	Ease of accessing the system when needed.	4.02	0.862
8	Internet and mobile network reliability for digital payments.	3.38	1.140
9	Availability of physical outlets (ATMs, agents) for digital payments.	3.88	0.995
10	Access to welfare payments through the system.	3.88	0.942

Source: *SPSS Output*

The above analysis of satisfaction levels with the digital payment system reveals an overall positive perception among respondents, with mean scores ranging from 3.38 to 4.02 on a 5-point scale. The highest satisfaction is observed for the ease of accessing the system when needed (Mean = 4.02, SD = 0.862), followed by the availability of physical outlets for digital payments and access to welfare payments (both Mean = 3.88). Respondents also rated the system interface as user-friendly (Mean = 3.85) and appreciated its availability in their area (Mean = 3.84). Moderate satisfaction was recorded for ease of completing transactions (Mean = 3.75), clarity of instructions (Mean = 3.67), and comfort in using the system independently (Mean = 3.55). However, the lowest satisfaction was with internet and mobile network reliability (Mean = 3.38, SD = 1.140), indicating connectivity issues as a potential barrier. Overall, the findings suggest that while respondents are generally satisfied with the accessibility, usability, and transaction process of the digital payment system, improvements in network reliability could further enhance user experience.

Table 7

Sl. No.	Variables	t	Sig (2 Tailed)	Mean Difference
1	Ease of using the digital payment system.	139.492	0.000	3.498
2	Clarity of instructions provided for using the system.	161.580	0.000	3.670
3	Comfort level using the system independently.	139.929	0.000	3.548
4	User-friendliness of the system interface.	161.696	0.000	3.854
5	Ease of completing transactions using the system.	136.258	0.000	3.746
6	Availability of the digital payment system in my area.	150.937	0.000	3.839
7	Ease of accessing the system when needed.	182.408	0.000	4.016
8	Internet and mobile network reliability for digital payments.	115.997	0.000	3.376
9	Availability of physical outlets (ATMs, agents) for digital payments.	152.474	0.000	3.875
10	Access to welfare payments through the system.	161.437	0.000	3.884

Source: *SPSS Output*

The one-sample t-test results indicate statistically significant differences for all variables, with t-values ranging from 115.997 (Internet and mobile network reliability) to 182.408 (Ease of accessing the system when needed). All variables recorded p-values = 0.000 ($p < 0.05$), demonstrating statistical significance. The mean differences range from 3.376 to 4.016, suggesting that respondents' satisfaction levels are consistently above the neutral point. The highest mean difference was for ease of accessing the system when needed **(**Mean diff = 4.016, t = 182.408**)**, followed closely by availability of physical outlets **(**Mean diff = 3.875**)** and access to welfare payments **(**Mean diff = 3.884**).** The lowest mean difference was for internet and mobile network reliability **(**Mean diff = 3.376, t = 115.997**),** indicating that connectivity issues remain a relative weakness. Since all p-values are below 0.05, the null hypothesis that there is no significant satisfaction with the digital payment system is rejected**,** and the alternative hypothesis is accepted, confirming that respondents are significantly satisfied with various aspects of the digital payment system.

Conclusion

The findings of this study show that beneficiaries in Mandya district are generally satisfied with the digital payment-based delivery of social welfare schemes. High mean scores and statistically significant t-test results confirm that DPS has improved accessibility, transparency, and efficiency in welfare distribution. The ease of accessing the system when needed*,* availability of physical outlets*,* and access to welfare payments emerged as the strongest satisfaction factors.

However, challenges persist in the form of internet and mobile network reliability, which slightly diminish the overall experience. Addressing these infrastructure gaps and strengthening digital literacy will not only enhance user satisfaction but also support broader financial inclusion and sustainable welfare delivery.

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