A Study of Effectiveness of Digital Marketing in Enhancing the Economic Outcomes of Selected Social Welfare Schemes of India

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Abstract

The evolution and use of internet based digital technology, use of digital marketing, online platforms, direct benefit transfer (DBT) and mobile-based communication tools have transformed the administration and implementation of welfare programmes in India. The effects of digital technology adoption on delivery of social welfare schemes are visible for the government as well as the beneficiaries. This paper looks at the impact of digital marketing and delivery systems on economic outcomes of three selected welfare programmes - Ayushman Bharat PM-JAY, Pradhan Mantri Awas Yojana Urban (PMAY-U) and National Urban Livelihoods Mission (NULM)of India. The study is based on the secondary data from government sources – reports, policy documents and websites from 2020 to 2025. The impact of use of digital initiatives on key economic outcomes for three selected schemes is presented and compared. Findings demonstrate that digital technology has greatly enhanced the outcomes for the beneficiaries as well as the government and play a very significant role for efficient welfare, governance and inclusive economic growth of India.

Keywords:

Digital marketing, social welfare schemes, digital governance, economic outcomes, Ayushman Bharat PM-JAY, PMAY-U, NULM

INTRODUCTION

India, with a population exceeding 1.4 billion people represents one of the world's most complex democracies where inclusive development remains both a priority and a challenge (World Bank, 2024). Since independence, numerous welfare schemes have been launched by the Government of India aimed at addressing various issues with a special focus on health, education, poverty, inequality, and social exclusion. These schemes span diverse sectors including healthcare, education, housing, financial inclusion, agriculture and social security, collectively forming a comprehensive social safety net designed to improve the quality of life for millions of citizens, particularly those from economically and socially

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disadvantaged backgrounds (Ministry of Finance, 2024).The Government of India has embarked upon an ambitious journey of digital transformation, anchored in the Digital India initiative which envisions transforming India into a digitally empowered society and knowledge economy (Nahak, 2023). This digital transformation is aimed at revolutionizing governance, service delivery, and citizen engagement through the strategic deployment of information and communication technologies (Meitei & Verma, 2025). This represents a paradigm shift in how government services are conceptualized, delivered, and accessed by citizens, particularly in the context of welfare schemes designed to uplift marginalized and vulnerable populations (Joshi & Upadhyay, 2025). The effectiveness of these welfare schemes, however, is contingent not merely on their design and resource allocation but critically on their reach, accessibility, and awareness among intended beneficiaries (Kumar & Gupta, 2021).

The traditional modes of information dissemination have proven inadequate in ensuring comprehensive awareness and uptake of welfare benefits. Digital technology has become a revolutionary force capable of addressing wide range of systemic issues. Through digital initiatives like the JAM trinity (Jan Dhan–Aadhaar–Mobile), BharatNet, and digital payment systems, the government seeks to reach marginalized and rural populations more effectively (MeitY, 2022; Athreya & Agarwal, 2019).The digitalization of welfare schemes targeting marginalized people has proven to be an effective tool for socio-economic transformation in India, facilitating e-governance implementation and enabling the government to build interconnected segments of society through ICT over digital spaces (Digitalization in Rural India, 2022). The adoption of real-time governance, transparency, accountability, and operational efficiency through digitalization has strengthened the delivery of welfare schemes and enhanced access for citizens(Rashid, 2026).India's economy is regarded as ICT-savvy, but the effectiveness of use of digital technology in dissemination of social welfare schemes in general and the effectiveness of digital marketing in enhancing the economic outcomes of social welfare schemes and economic growth of the country in particular is a question that remains unanswered.

This paper addresses this gap by exploring the economic outcomes and effectiveness of three selected social welfare schemes/programmes in India. These three schemes namely, Ayushman Bharat Pradhan Mantri Jan Arogya Yojana (AB-PMJAY), Pradhan Mantri Awas Yojana - Urban (PMAY-U), and Deendayal Antyodaya Yojana - National Urban Livelihoods Mission (DAY-NULM) collectively represent the major dimensions of social welfare in India and contribute to human development and economic empowerment. The selection of these schemes for this study is based on their national importance, digital integration, socio-economic relevance, and measurable economic outcomes. Together, these schemes provide a comprehensive and comparative framework to examine how digital marketing and digital governance mechanisms influence beneficiary awareness, accessibility, financial inclusion, transparency, and economic enhancement. Their large-scale implementation, availability of measurable economic data and reliance on digital systems make them suitable and representative case studies for analyzing the effectiveness of digital marketing in Indian welfare schemes. By critically evaluating these programmes in terms of their success in generating the economic impact and major challenges we intend to contribute to a more comprehensive knowledge of these programmes' role in India's socio-economic growth and provide suggestions for enhancing their efficacy by assessing them.

EVOLUTION OF SOCIAL WELFARE IN INDIA

In a democratically elected welfare state, the government plays a crucial role in ensuring social justice for its citizens along with providing a wide and effective range of social services including better healthcare facilities, quality education and various other welfare measures like shelter for poor, relief packages for farmers, job security for unemployed youth, scholarship and loan for economically weak students and special policies for the protection and empowerment of women with an aim to reduce inequality and enhance over all well-being of its citizen (Ministry of Finance, 2023) thus ensuring that no one falls below a certain living standard. The journey of welfare schemes in India can be traced through distinct phases. The initial decades post-independence (1950s-1970s) focused on building institutional frameworks and basic infrastructure. Community Development Programme (1952) and Integrated Rural Development Programme (IRDA) laid the foundation for organized welfare delivery.

Shortly after the country's independence, major steps were taken towards social welfare focusing on providing food security and promoting rural development. For instance, the Public Distribution System (PDS) was introduced in the 1960s to

address food scarcity, particularly in rural areas (Chaudhary, Garima., 2024). Initially, it was designed as a means of managing food shortages, but over time, it became an essential tool for providing subsidized food grains to economically disadvantaged families (Chand, 2019). While the system has played a critical role in reducing hunger, it has faced persistent issues, including leakage and inefficiency in delivery mechanisms (Drèze & Sen, 2013). The challenges like implementation inefficiencies faced by the PDS highlight a core issue in India's welfare policies that have hindered the success of several social programmes.

The 1980s and 1990s witnessed the emergence of targeted interventions such as the Integrated Child Development Services (ICDS), Mid-Day Meal Scheme, and various employment guarantee programmes (Tilak, 2002). With the liberalization of India's economy in 1990s, several welfare policies were introduced to meet the changing needs and requirements of the population. One of the most effective programmes of this period was the Mahatma Gandhi National Rural Employment Guarantee Act (MGNREGA), launched in 2005. The objective of NREGA was to guarantee 100 days of wage employment to rural households, thus reducing poverty by providing a reliable source of income to the rural poor (Sharma, 2024). By offering employment opportunities, NREGA also aimed to create rural infrastructure and improve economic conditions in India's most underdeveloped areas (Jha, 2018; Deininger & Liu, 2013). While NREGA has been credited with reducing rural unemployment, issues such as delayed payments, corruption, and the low quality of work have limited its full potential (Chand, 2019). Policies like Right to Education Act (2009) and National Food Security Act (2013) transformed welfare from discretionary provision to legal entitlement.

In the last decade, social welfare programmes have expanded to include initiatives that promote financial inclusion and healthcare access. Programmes like the Pradhan Mantri Jan Dhan Yojana (PMJDY) and Ayushman Bharat are part of India's broader vision to reduce exclusion and provide access to essential services for marginalized groups (Chaudhary, Garima., 2024). Launched in 2014, PMJDY aimed to provide bank accounts to every household, thus facilitating financial inclusion for over 350 million individuals who had previously been excluded from the banking system (Rajan, 2019; Athreya & Agarwal, 2019). This programme, along with the introduction of the Direct Benefit Transfer (DBT) scheme, seeks to improve the efficiency of welfare transfers by minimizing leakages and ensuring that benefits reach the intended recipients (Government of India, 2023; MeitY, 2022). Similarly, Ayushman Bharat, launched in 2018, is one of the world's largest health insurance schemes, targeting economically vulnerable populations to provide them with access to affordable healthcare (Ministry of Health and Family Welfare, 2018; Garg et al., 2020). The current decade has seen the consolidation and digital transformation of welfare schemes, with emphasis on direct benefit transfer, financial inclusion, and technology-enabled service delivery (Government of India, 2023).

The Government of India, as of 2026 operates over 950 central and centrally-sponsored schemes across various ministries, with an annual budget allocation exceeding □10 lakh crores (approximately USD 120 billion). Major sectors include agriculture and rural development (23% of welfare budget), healthcare (18%), education and skill development (15%), housing and urban development (12%), social security & pensions (11%), financial inclusion (10%), and women & child development (8%) (Ministry of Finance, 2024). Prominent programmes such as the Ayushman Bharat, Pradhan Mantri Awas Yojana (PMAY),Pradhan Mantri Jan Dhan Yojana (PMJDY), National Urban Livelihood Mission (NULM), Mahatma Gandhi National Rural Employment Guarantee Scheme (MGNREGS), Pradhan Mantri Ujjwala Yojana, Pradhan Mantri Kisan Samman Nidhi (PM-KISAN) etc. represent the commitment of the government towards inclusive development and social justice.

Digital Technology in Social Welfare

Historically, welfare delivery in India has been plagued by deep-seated bureaucratic processes, corruption, information asymmetry, and poor convergence, making it difficult for citizens to access various schemes aimed at redistribution, social justice, and inclusion (Dreze& Khera, 2017). The traditional modes of information dissemination through government offices, public notices, and word-of-mouth were found insufficient in scheme dissemination and access. Digital technology has emerged as a transformative force capable of addressing these systemic challenges. The proliferation of mobile telephony, internet connectivity, and digital platforms has created unprecedented opportunities for governments to communicate directly with citizens, bypassing traditional intermediaries and reducing information asymmetries(Meitei & Verma, 2025). The Digital India programme aims to promote inclusive growth by bridging the digital divide, fostering financial inclusion, enabling e-

governance, and expanding access to education and healthcare(Rashid, 2026). The government's increased focus on digitization and technology in welfare schemes, such as through the use of Aadhaar-based identification and mobile payment systems, has created new avenues for improving transparency and reducing corruption (Ministry of Finance, 2014). The adoption of real-time governance, transparency, accountability, and operational efficiency through digitalization has strengthened the delivery of welfare schemes and enhanced access for citizens(Joshi & Upadhyay, 2025). The extensive use of digital technology is social welfare in India is based upon its robust ICT infrastructure including internet penetration and mobile connectivity; successful linkage of Aadhaar (a 12-digit unique identification number issued to citizens) details with beneficiaries' information for the purpose accessing the welfare schemes; and direct benefit transfer through Jan-Dhan accounts(MeitY, 2022).Existing literature further suggests that digital governance mechanisms such as Aadhaar integration, Direct Benefit Transfer (DBT), online portals, digital payments, and mobile applications improve transparency, reduce leakages, and strengthen welfare service delivery. Digital welfare systems reduce leakages and improve transparency through Aadhaar-enabled verification and DBT systems and thereby helps in enhancing the administrative efficiency and reduce corruption in welfare distribution (Kumar and Gupta, 2021). These technological advancements have the potential to transform welfare delivery in India, ensuring that benefits are more accurately targeted and reach those who need them the most (Chaudhary, Garima., 2024).

Digital Technology and Economic Growth

The digitalization of welfare schemes targeting marginalized people has proven to be an effective tool for socio-economic transformation in India, facilitating e-governance implementation and enabling the government to build interconnected segments of society through ICT over digital spaces (Digitalization in Rural India, 2022). Welfare programmes like NREGA and PMAY have been credited with stimulating local economies, boosting employment in rural areas, and driving demand for goods and services (Chand, 2019; Deininger & Liu, 2013). These programmes also play an indirect role in improving overall economic productivity by increasing access to education, healthcare, and housing, which are essential components of human capital development (Drèze & Sen, 2013). Digital technology and financial inclusion are important drivers of economic growth, governance efficiency, and welfare delivery systems across developing economies. Digital financial inclusion positively influences economic growth(Shen et al., 2021; Dey, 2025). Existing literature highlights that digital platforms, internet infrastructure, and ICT-enabled governance mechanisms significantly improve accessibility, transparency, and socio-economic participation (Mwakalila & Kasongwa, 2024).Rapid internet penetration, mobile accessibility, AI-driven advertising, social media platforms, and digital payment systems have accelerated business growth and employment generation in India (Kumar and Mahida, G, 2023).Digital technologies such as biometric identification, artificial intelligence, and automated welfare systems have transformed traditional welfare administration by improving targeting, reducing corruption, and enhancing service efficiency (Larasati et al., 2023).The Economic Survey of India (Government of India, 2023) highlighted that DBT systems have saved billions of rupees by eliminating duplicate beneficiaries and reducing intermediary intervention. Similarly, MeitY (2022) observed that digital infrastructure has strengthened financial inclusion and expanded access to welfare services in both urban and rural areas. Research on PM-JAY indicates that digital claim processing and online hospital empanelment have improved healthcare accessibility for economically weaker populations (National Health Authority, 2023; Parmar et al., 2023). Studies on PMAY-U emphasize the role of geo-tagging, online monitoring systems, and DBT subsidies in improving transparency and housing delivery efficiency (Ministry of Housing and Urban Affairs, 2023; Kumar & Dehalwar, 2025). In the context of NULM, digital monitoring systems and online skill development platforms have contributed to livelihood generation and urban employment support (Ministry of Housing and Urban Affairs, 2022). However, scholars also note challenges such as low digital literacy, poor internet connectivity, and technological exclusion among marginalized populations.

Selected Welfare Schemes: Digital Focus and their Economic Impact

Ayushman Bharat Pradhan Mantri-Jan Arogya Yojana

The Ayushman Bharat - Pradhan Mantri Jan Arogya Yojna, launched on Sept 23, 2018 is the world's largest public health insurance policy, which aims to provide health insurance coverage of up to Rs 5 lakhs per year to each deserving household. The purpose of this welfare scheme is to provide

quality healthcare services to more than 12 crore underprivileged families. The National Health Policy 2017 addresses the issues of health care in the era of technical advancements, changing socio-economic situations and changing illness pattern such as increase in lifestyle diseases as well as conventional infectious diseases. In line with this policy, AB-PMJAY is one pillar of the larger Ayushman Bharat Pradhan Mantri Jan Arogya Yojana scheme launched in 2018, a health initiative designed to provide equitable health coverage, especially for rural and economically weaker sections (Government of India, 2017; National Health Authority, 2023).The other pillars under Ayushman Bharat include Ayushman Aarogya Mandir (AAM), which ensures that primary healthcare is accessible to people near their homes or through teleconsultation facilities; Ayushman Bharat Digital Mission (ABDM), which digitally links health facilities from village clinics to tertiary hospitals and aims to create an integrated digital health infrastructure across the country; and PM-Ayushman Bharat Health Infrastructure Mission (PM-ABHIM), launched in 2021 to strengthen healthcare infrastructure from village health centres to district hospitals (Ministry of Health and Family Welfare, 2021; National Health Authority, 2023). Collectively, Ayushman Bharat seeks to make quality healthcare accessible at the primary, secondary, and tertiary levels.

Pradhan Mantri Awas Yojana –Urban

The pradhan mantri awas yojana–urban (PMAY-U) has emerged as one of India's most significant urban welfare initiatives which aim to provide affordable housing and improving the socio-economic condition of urban poor households.

Digital technology has played a transformative role in PMAY-U implementation. Online beneficiary identification, Aadhaar-based verification, geo-tagging of houses, Direct Benefit Transfer (DBT), and digital payment systems have increased transparency, reduced leakages, and improved monitoring efficiency(Ministry of Housing and Urban Affairs, 2023). Recent studies by SBI Research suggest that PMAY-U 2.0 has significantly promoted digital payment adoption and financial inclusion among lower-income households, especially women beneficiaries using UPI-based transactions.

National Urban Livelihoods Mission

National Urban Livelihoods Mission (DAY-NULM) also known as The Deendayal Antyodaya Yojana is an important urban poverty alleviation programme in India by promoting employment, self-reliance, and financial inclusion among the urban poor. Digital technology has significantly improved the effectiveness of DAY-NULM implementation. The use of Aadhaar authentication, Direct Benefit Transfer (DBT), online monitoring systems, mobile banking, and digital payment platforms has enhanced transparency and reduced delays in fund disbursement (MeitY, 2022). Digital literacy initiatives and online skill training portals have also enabled beneficiaries, especially women and street vendors, to access financial services and employment opportunities more efficiently. Recent government reports indicate that digital banking usage among SHG members has increased substantially due to UPI-based transactions and Jan Dhan-linked accounts (NITI Aayog, 2025).

RESEARCH GAPS

Although existing literature extensively discusses digital governance and DBT systems, limited research has comparatively analyzed the economic outcomes of digitally enabled welfare schemes. This study seeks to address this gap by examining the relationship between digital technology marketing, scheme accessibility, and economic outcomes across multiple welfare sectors. However, despite having extensive literature on digital technology marketing and economic growth, very limited research specifically examines the effectiveness of digital technology marketing in enhancing economic outcomes of welfare schemes in India. Existing studies largely focus on banking systems, digital finance, or regional economic growth, while insufficient attention has been given to beneficiary-level welfare enhancement through digital governance and welfare marketing systems. Furthermore, comparative analysis of schemes such as Ayushman Bharat PM-JAY, PMAY-Uand DAY-NULM remains significantly underexplored. Therefore, the present study attempts to bridge this gap by analyzing how digital technology marketing improves awareness, accessibility, participation, transparency, and economic upliftment among welfare scheme beneficiaries.

RESEARCH OBJECTIVES

1.To examine the role of digital marketing platforms in promoting selected welfare schemes in India.

2.To analyze the effectiveness of digital delivery systems in improving beneficiary access and utilization.

3.To assess the economic outcomes of digitally enabled welfare schemes.

METHODOLOGY

The current research is comparative and is based on secondary data. The efficiency of digital marketing technologies in enhancing the economic results of three selected social welfare initiatives- Ayushman Bharat Pradhan Mantri Jan Arogya Yojana (AB-PMJAY), Pradhan Mantri Awas Yojana–Urban (PMAY-U), and Deendayal Antyodaya Yojana–National Urban Livelihoods Mission (DAY-NULM) of India were seen. The comparative analysis was based on variables such as beneficiary coverage, digital inclusion, financial savings, infrastructure development, employment generation, efficiency, transparency and economic impact. The collected data were examined comparatively to assess the degree to which digital marketing and digital governance systems enhance welfare delivery and socio-economic development.It aims to bring together the evidence to understand the relationship between digital interventions and economic outcomes in chosen welfare schemes.Secondary data for the purpose of comparison were taken from governmental documents, yearly reports, policy papers, Economic Surveys, official dashboards, publications from the Ministry, and peer-reviewed journal articles.The reports published by Ministry of Statistics and Programme Implementation (MoSPI), the Reserve Bank of India (RBI) and the Ministry of Rural Development (MoRD)provided crucial information on demographic & socio-economic status, financial inclusion and development.

Household survey data from the National Sample Survey Office (NSSO), annual reports on welfare schemes, policy documents, economic surveys and the findings from impact evaluations conducted by various ministries between 2020 and 2025 provided valuable information on the reach, outcomes, and challenges faced by the selected welfare programmes namely, Ayushman Bharat Pradhan Mantri Jan Arogya Yojana (AB-PMJAY), Pradhan Mantri Awas Yojana - Urban (PMAY-U), and Deendayal Antyodaya Yojana - National Urban Livelihoods Mission (DAY-NULM).

After extracting crucial information pertaining to the selected welfare, a scheme wise grid reflecting the key economic outcomes during the period 2020 to 2025 was prepared.

FINDINGS

Findings are presented in Table 1 to Table 7 as given below:

Table 1: Ayushman Bharat (PMJAY) - Key Initiatives and Effects

Year	Digital Marketing / Digital Initiative	Effects	
		Beneficiary	Government
2020	Expansion of digital beneficiary identification and online hospital empanelment during COVID-19	Increased access to cashless treatment, reduced immediate hospitalization burden on poor households during the pandemic	Digital claim processing improved administrative continuity and reduced manual operational costs during lockdowns.
2021	Digital awareness campaigns, SMS outreach, online Ayushman card generation	Increased enrollment and healthcare access among rural and economically weaker beneficiaries.	Wider digital penetration improved utilization efficiency of public healthcare expenditure.
2022	Integration with digital healthcare ecosystem and expansion of ABDM/ABHA IDs	Reduction in Out-of-Pocket Expenditure (OOPE) contributed to increased household savings and reduced catastrophic health expenditure.	Government Health Expenditure rose from 29% (FY2015) to 48% (FY2022), improving healthcare financing efficiency.
2023	Large-scale digitisation of health records and online treatment authorization	Beneficiaries received faster cashless treatment through digital verification systems.	More than 5 crore hospital admissions processed digitally improved transparency and reduced processing delays.
2024	AI-based fraud monitoring, machine learning algorithms, National Anti-Fraud Unit (NAFU)	Genuine beneficiaries received uninterrupted healthcare support due to prevention of fund leakages.	Around 2.7 lakh fake claims worth ₹ 562.4 crore detected and blocked through digital fraud analytics.
2025	Fully digital PMJAY architecture, AI-driven claim verification, digital health records	Household savings exceeded ₹ 1.25 lakh crore due to reduced OOPE and cashless healthcare access. More than 36.9 crore Ayushman cards enabled digital healthcare access.	3.56 lakh fraudulent claims worth ₹ 643 crore rejected; technology-led checks prevented fake claims worth nearly ₹ 630 crore.

Sources: Compiled by authors based on the information obtained from Press Information Bureau (2025), Times of India (Feb 13,2025)

Table 2: Ayushman Bharat (PMJAY) - Impact on Key Economic Parameters and Economic Outcomes

Economic Indicator	Data	Economic Outcomes
Reduction in Out-of-Pocket Expenditure (OOPE)	Declined from 62.6% (FY2015) to 39.4% (FY2022)	Increased disposable income and reduced medical poverty among beneficiaries
Household Savings	More than ₹ 1.25 lakh crore savings reco₹ed	Improved financial security of economically weaker households
Digital Ayushman Cards	More than 36.9 crore cards generated by March 2025	Expanded digital healthcare accessibility and inclusion
Fraudulent Claims Prevented	₹562.4 crore– ₹ 643 crore fraudulent claims detected/rejected	Protected government healthcare funds and improved fiscal efficiency
Hospital Admissions Digitally Processed	More than 8.5 crore treatments availed under PMJAY	Improved transparency and operational efficiency in healthcare delivery
Digital Health Infrastructure	Over 110 million digital health records digitized	Growth of digital health economy and reduction in administrative inefficiencies

Sources: Compiled by authors based on the information obtained from Press Information Bureau (2025), The Economic Times (March 11, 2025), ET Health World (Feb 5, 2025), Times of India (Jan 15,2026)

Table 3: Pradhan Mantri Awas Yojana -Urban (PMAY-U) -Key Initiatives and Effects

Year	Digital Marketing / Digital Technology Initiative	Effects	
		Beneficiary	Government
2020	Direct Benefit Transfer (DBT), online beneficiary tracking, GIS-based monitoring, digital PMAY dashboard	13.20 lakh beneficiaries received interest subsidy worth ₹ 30,868 crore through digitally managed CLSS system.	PMAY-U generated nearly 210 lakh jobs (58 lakh direct + 151 lakh indirect) and stimulated investment through digital monitoring and faster implementation.
2021	Expansion of digital housing approval systems and online beneficiary identification	More than 1.09 crore houses sanctioned digitally improved housing accessibility for EWS/LIG groups.	Construction activity created demand for 591 lakh MT cement and 141 lakh MT steel, boosting industrial growth.
2022	Technology Sub-Mission (TSM), Global Housing Technology Challenge (GHTC), real-time project monitoring	Faster project completion improved housing security and reduced rental expenditure among beneficiaries.	Use of innovative construction technologies reduced delays and improved implementation efficiency in affordable housing projects.
2023	Digital awareness campaigns, PMAY portals, online application and verification systems	Increased inclusion of women and vulnerable groups through digital registration and ownership tracking systems.	PMAY-U generated approximately 1.20 crore employment opportunities across 21 sectors linked to housing construction.
2024	Digital financial integration, online subsidy processing, digital housing finance ecosystem	Approximately 25.04 lakh beneficiaries accessed formal housing credit under CLSS with average interest subsidy support of 6.5%.	Cumulative economic activity generated around ₹ 2.85 lakh crore through construction and allied industries.

2025	PMAY-U 2.0 digital platform integration and digital payment ecosystem	Female beneficiaries showed increased digital financial participation; average monthly UPI spending increased by ₹ 7,522 after loan disbursement.	Digital transactions among PMAY beneficiaries increased significantly, strengthening India's formal digital economy and financial inclusion ecosystem.

Sources: Compiled by authors based on the information obtained from Ministry of Housing & Urban Affairs (Jan 11,2021), www.ibef.org, pmay-urban.gov.in, The Economic Times (Jan 15, 2025), Singh, M., & Dehalwar, K. (2025)

Table 4: Pradhan Mantri Awas Yojana - Urban (PMAY-U)-Impact on Key Economic Parameters and Economic Outcomes

Economic Indicator	Data	Economic Outcomes
Digital Interest Subsidy Distribution	₹30,868 crore subsidy distributed digitally under CLSS	Reduced loan burden and improved housing affordability
Employment Generation	210 lakh jobs generated (direct + indirect)	Increased income and livelihood opportunities
Total Investment Generated	₹ 8.42– ₹ 8.43 lakh crore investment	Boosted GDP, construction sector, and infrastructure development
Women's Economic Participation	1.89 crore women registered as joint property owners	Increased women's financial inclusion and asset ownership
Digital Financial Inclusion	UPI spending increased by ₹ 5,050 on average after PMAY loan disbursement	Strengthened digital economy participation among low-income households
Cement & Steel Demand	745 lakh MT cement and 169 lakh MT steel consumption estimated	Stimulated manufacturing and allied industries
Houses Completed	More than 96 lakh houses completed and delivered	Improved economic security and reduction in housing expenditure

Sources: Compiled by authors based on the information obtained from Ministry of Housing & Urban Affairs (Jan 11,2021), The Economic Times (oct. 15,2025), Singh, M., & Dehalwar, K. (2025), Hindustan Times (Jan 29,2026), PMAY-Urban (Official Portal 2026)

Table 5: Deendayal Antyodaya Yojana - National Urban LivelihoodsMission (DAY-NULM) -Key Initiatives and Effects

Year	Digital Marketing / Digital Initiative	Effects	
		Beneficiary	Government
2020	Launch and expansion of Portal for Affordable Credit and Interest Subvention Access (PAiSA), digital SHG bank linkage systems, online beneficiary tracking	Nearly 5.26 lakh beneficiaries received support for setting up micro-enterprises with loans worth ₹ 4,417.86 crore; 56.17% beneficiaries were women.	4.83 lakh SHGs received more than 6 lakh bank loans worth ₹ 16,489 crore through digitally managed SHG bank linkage systems.
2021	MoUs with Amazon and Flipkart for digital onboarding and e-commerce marketing of SHG products	Urban SHGs gained online market access and increased income opportunities through digital platforms.	Digital marketplace integration improved formalization of urban micro-enterprises and expanded digital commerce participation.
2022	Expansion of DAY-NULM MIS, online SEP monitoring, digital training modules	Thousands of urban youth received digital skill training and access to subsidized self-employment loans.	Digital monitoring reduced implementation delays and improved transparency in fund utilization.
2023	Digital entrepreneurship promotion, SHG e-commerce integration, online bank linkage systems	In Assam alone, 10,241 urban youth received skill training and 675 beneficiaries received subsidized bank loans for enterprises.	Increased digital financial inclusion and credit flow to urban micro-enterprises supported urban economic activity.
2024	Expansion of digital financial inclusion, ICT-enabled bank linkage, online training and placement systems	DAY-NULM supported self-employment and skilled wage employment through digital financial systems and online urban livelihood centres.	Strengthened digital governance and reduced administrative costs through centralized MIS and online implementation systems.
2025	Digital SHG ecosystem, U-Learn portal, e-commerce partnerships, digital financial literacy programmes	SHG members gained better access to digital payments, banking, and online marketing opportunities.	Expansion of digital financial literacy improved formal financial participation and strengthened India's digital economy.

Sources: Compiled by authors based on the information obtained from https://nulm.gov.in Quarterly E Bulletin (April, 2020), Women Entrepreneurs Review. (2026, February 5) Ministry of Housing and Urban Affairs. (2026). National Urban Livelihoods Mission mission document.

Table 6: Deendayal Antyodaya Yojana - National Urban Livelihoods Mission (DAY-NULM) - Impact on Key Economic Parameters and Economic Outcomes

Economic Indicator	Data	Economic Outcomes
Micro-enterprises Supported	5.26 lakh beneficiaries supported with enterprise loans worth ₹ 4,417.86 crore	Increased self-employment and income generation among urban poor
SHG Bank Linkage	4.83 lakh SHGs linked with banks; loans exceeding ₹ 16,489 crore sanctioned	Increased access to formal credit and financial inclusion
Women Beneficiaries	56.17% of enterprise loan beneficiaries were women	Enhanced women's entrepreneurship and economic empowerment
Skill Training	Over 39,704 urban youth trained in Assam alone (cumulative)	Increased employability and wage opportunities
Digital Marketplace Integration	MoUs signed with Amazon and Flipkart for SHG product onboarding	Expanded online market access for SHG products and urban enterprises
Financial Literacy Campaigns	2.94 crore women SHG members trained in digital financial literacy in FY2025-26	Improved digital banking adoption and formal financial participation
Digital Financial Infrastructure	PAiSA portal received SKOCH Governance Gold Award for transparent digital interest subvention system	Improved transparency and reduced administrative leakages in subsidy disbursement

Sources: Compiled by authors based on the information obtained from https://nulm.gov.in Quarterly E Bulletin, Women Entrepreneurs Review. (2026, February 5) Ministry of Housing and Urban Affairs. (2026). National Urban Livelihoods Mission mission document.

Table 7: Snapshot of Digital Technology Used and Economic Effects of Selected Welfare Schemes

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Scheme	**Major Digital Tools Used**	**Economic Benefit to Beneficiaries**	**Economic Benefit to Government/Economy**	**Overall Impact**
Ayushman Bharat Pradhan Mantri Jan Arogya Yojana (AB-PMJAY)	Ayushman Cards, digital health IDs, online hospital systems, AI fraud detection, mobile apps	Reduced medical expenses; household savings exceeded ₹ 1.25 lakh crore; cashless treatment for crores of families	Fraud detection saved more than ₹ 630 crore; reduced paperwork and improved transparency	Digital healthcare systems greatly improved financial protection and healthcare accessibility
Pradhan Mantri Awas Yojana - Urban (PMAY-U)	Online registration, GIS monitoring, DBT, digital subsidy transfer, PMAY portal	Affordable housing, reduced rent burden, property ownership, women empowerment	Investment exceeded ₹ 8.43 lakh crore; generated crores of jobs and boosted cement, steel, and construction sectors	Digital housing management improved implementation speed and economic growth
Deendayal Antyodaya Yojana - National Urban Livelihoods Mission (DAY-NULM)	E-commerce platforms, SHG digital banking, PAiSA portal, online skill training	Increased self-employment, easier bank loans, higher SHG income, digital financial inclusion	Improved transparency in subsidy distribution and strengthened digital economy participation	Digital platforms enhanced urban livelihoods and entrepreneurs

Sources: Compiled by authors

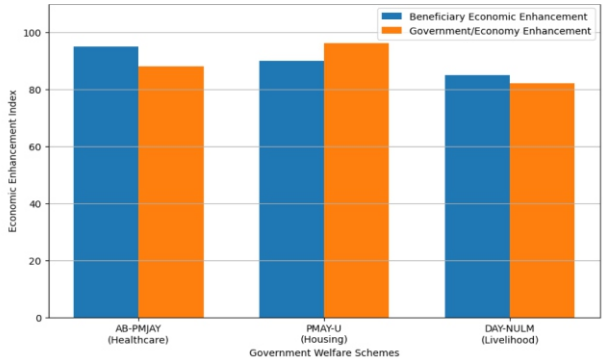

Fig 1: Impact of Digital Technology on Economic Enhancement

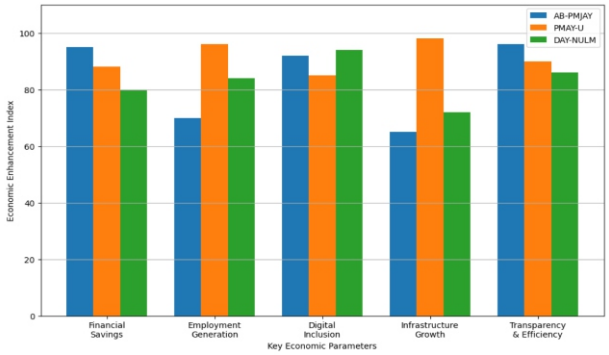

Fig 2: Impact of Digital Technology on Key Economic Indicators

"The Economic Enhancement Index (calculated in fig 1 and fig 2) for this study is a researcher-developed comparative analytical index prepared on the basis of secondary economic data, digital implementation indicators, and welfare outcomes collected from government reports, official dashboards, and published literature. The index is intended for comparative interpretation and visualization purposes only."

RESULTS AND DISCUSSION

The analysis demonstrated that digital marketing and digital technology significantly enhanced the economic outcomes of welfare schemes in India between 2020 and 2025. Digital marketing platforms such as SMS campaigns, mobile applications, and online portals have increased awareness and beneficiary participation across welfare schemes. Simultaneously, digital delivery mechanisms including DBT, Aadhaar authentication, and MIS systems have enhanced transparency and reduced leakages. The data reveals that digital healthcare systems under AB-PMJAY substantially reduced out-of-pocket medical expenditure and increased financial protection for beneficiaries through cashless treatment and AI-enabled transparency mechanisms. Simultaneously, PMAY-U generated strong economic multipliers through digitally monitored housing construction, Direct Benefit Transfer (DBT), and online subsidy systems, which boosted employment generation, infrastructure development, and industrial demand in sectors such as cement, steel, and construction. DAY-NULM further strengthened economic inclusion by promoting digital entrepreneurship, SHG digitization, e-commerce participation, online skill development, and financial literacy among urban poor households.

Collectively, the three schemes show that digital technology improved governance efficiency, reduced leakages and fraud, accelerated service delivery, expanded beneficiary outreach, and strengthened financial inclusion. The combined impact demonstrates that digital marketing and digital governance have become critical instruments for enhancing welfare delivery and promoting inclusive economic growth in India. The findings therefore confirm that digital transformation in welfare schemes positively influences both beneficiary welfare and broader economic development outcomes.

This study helps in extending an understanding of established frameworks namely, Diffusion of Innovations (Rogers, 1971), Information Asymmetry (Akerlof, 1970; Stiglitz, 2002), Digital Welfare Delivery Stack theory, and Social Marketing (Kotler & Zaltman, 1971; Andreasen, 1994). It proposes refinements and extensions that advance academic knowledge in the intersecting fields of digital marketing, development economics, and public policy.

The application of diffusion of innovations (DoI) theory (Rogers, 2003) to government welfare schemes, particularly in the context of digital marketing campaigns by the government has remained under-theorised. The study foregrounds that digital marketing channels act not merely as communication conduits but as active accelerants of adoption. The varied adoption rates observed across PM-JAY, PMAY-U, and NULM suggest that the innovation attributes identified by Rogers (relative advantage, compatibility, trialability, observability, and complexity) apply differently when the 'innovation' is a welfare entitlement rather than a commercial product, and when the adopter population is characterised by digital literacy deficits rather than early-adopter profiles. The study contributes to DoI theory by introducing the concept of 'structural adoption barriers' — institutional impediments such as documentation requirements, Aadhaar linkage, and bureaucratic registration procedures — as variables that interact with digital marketing effectiveness. Even when digital outreach successfully creates awareness, structural barriers such as documentation requirements, Aadhaar linkage, and bureaucratic registration procedures act as variables that interact with digital marketing effectiveness and arrest the diffusion process before it reaches the adoption stage. This refinement enriches the DoI model for welfare policy contexts in low and middle-income countries.

Information asymmetry which corresponds to the unequal distribution of relevant information between parties (Akerlof, 1970; Stiglitz, 2002) is a foundational concept in development economics, particularly in the context of welfare scheme design and uptake. The present study makes a substantive theoretical contribution by disaggregating information asymmetry into three distinct dimensions that interact differently with digital marketing interventions. Awareness Asymmetry where beneficiaries don't know the scheme exists can be addressed through mass digital outreach. Eligibility Asymmetry where beneficiaries do not know they qualify can be targeted through personalised digital communication like beneficiary portals and Aadhaar-linked eligibility checks. Navigation Asymmetry where beneficiaries cannot access/claim benefits despite awareness can be provided digital facilitation through app-based guided enrolment, chatbots, Ayushman Mitras, and CSC support. This three-part disaggregation advances development economics theory by explaining why aggregate awareness data, the most commonly reported metric in scheme evaluation studies, can be misleading.

The concept of a digital welfare delivery stack, a layered architecture of digital public infrastructure (JAM trinity, UMANG, DBT, CSCs) enabling welfare scheme delivery, has been articulated in policy documents but lacks a coherent theoretical treatment in academic literature. This study contributes to theorising this construct by establishing the relationship between stack depth and welfare economic outcomes. The comparative analysis of PM-JAY, PMAY-U, and NULM reveals that schemes with deeper stack integration, encompassing identification (Aadhaar), communication (mobile/SMS/app), financial transfer (DBT), grievance redressal (portals), and incentivisation (cashback), demonstrate stronger digital marketing effectiveness because each layer reinforces the others. This contribution is theoretically significant because it shifts the unit of analysis in welfare marketing theory from individual campaigns to systemic digital infrastructure, aligning the field with contemporary platform economics literature (Parker, Van Alstyne & Choudary, 2016) and enriching the theory of digital public goods.

The present study also advances social marketing theory, the application of commercial marketing principles to social behaviour change (Kotler & Zaltman, 1971; Andreasen, 1994) in the Indian public policy context in several ways. First, the study tests and contextualises the 4P framework of social marketing within the specific constraints of India's social welfare architecture. In this context, the 'Product' is the welfare entitlement; 'Price' encompasses transaction costs including documentation burden and travel to enrolment centres; 'Place' refers to digital and physical touchpoints; and 'Promotion' encompasses IEC activities and digital campaigns. The study finds that digital marketing disproportionately addresses the 'Promotion' dimension while leaving 'Price' (in the form of structural access barriers) as largely unaddressed, contributing to the awareness-utilisation gap documented in the literature. Second, the study contributes to the concept of 'Reluctant Adopters' to social marketing theory. They are those beneficiaries who are aware of and eligible for scheme benefits but deliberately delay or avoid enrolment due to perceived risks (data privacy concerns, bureaucratic harassment, benefit conditionality). This segment, identified particularly in the PM-JAY and PMAY-U contexts, requires distinct social marketing strategies that address trust and perceived risk rather than awareness alone. Third, the study suggests that social marketing theory must incorporate 'digital inclusion' as a prerequisite variable. Social marketing interventions through digital channels presuppose a baseline of digital access and literacy that does not uniformly exist among marginalised beneficiary populations in India.

Theoretical Linkage Between Digital Marketing and Welfare Economic Outcomes

A central theoretical contribution of this study is the establishment of a conceptual causal chain linking digital marketing inputs to welfare economic outcomes. The existing literature identifies this linkage in fragments but has not synthesised into a unified model. The study proposes the following theoretical pathway:

Digital Marketing Investment → *Awareness Creation* → *Enrolment / Application* → *Scheme Utilisation* → ***Economic Outcome***

Each arrow in this chain represents a transition point that can be interrupted by moderating variables including digital literacy, structural adoption barriers, bureaucratic friction, trust deficits, and social network effects. The theoretical contribution lies in identifying these interruption points and proposing that digital marketing must be designed to address not just the first transition (awareness creation) but all subsequent transitions if it is to produce measurable economic outcomes. This is termed the 'Full-Chain Digital Marketing Effectiveness' (FCDME) model

— a theoretical construct proposed by this study for application in welfare policy contexts.

POLICY IMPLICATIONS

The current study has following important implications for policymakers, administrators and practitioners:

Digital Marketing Measurement Standardisation

The most consequential practical implication for social welfare scheme administrators is the need to redesign the digital marketing evaluation framework from one that measures outputs (number of campaigns, impressions, Ayushman Cards generated) to one that measures outcomes The current framework, as identified in literature and corroborated by the study's findings, lacks robust Key Performance Indicators (KPIs) connecting digital marketing spend to health-economic outcomes.For digital marketing practitioners operating in the welfare sector, the study underscores the urgent need to develop standardised measurement protocols that go beyond conventional digital marketing metrics (click-through rates, impressions, app downloads) to include welfare-relevant outcome metrics (enrolment rates, scheme utilisation rates, economic outcome proxies such as reduction in hospitalisation costs and loan uptake). Establishing a Welfare Digital Marketing Effectiveness Index (WDMEI), drawing from the study's proposed Full-Chain Digital Marketing Effectiveness model, would provide practitioners and administrators with a common language and framework for programme evaluation.

Precision Beneficiary Targeting and Content Strategy

The study's findings suggest a critical practical opportunity: leveraging the rich administrative data (SECC data, Aadhaar-linked health records, ABDM registrations) to deploy Artificial Intelligence and Machine Learning-driven micro-targeting campaigns. Rather than broadcasting general awareness messages, the NHA and state health agencies should deploy personalised digital communications to specific eligible households that have not yet enrolled. This approach, already in nascent use under the Ayushman Bhav campaign's 'Ayushman Sabhas' model, warrants systematic scaling. The digital content strategy must mandate state-specific, regionally adapted campaigns with culturally resonant narratives that reflect local health-seeking behaviours, trusted community voices, and regionally relevant benefit stories. Digital marketing campaigns specifically targeting women beneficiaries — through women-oriented social media channels, SHG WhatsApp networks, and women's self-help group digital platforms — can simultaneously increase application volumes and advance gender equity goals. The NULM's existing SHG digital network provides a ready-made channel for this targeted outreach.

Digitally Facilitated Support as a Marketing Lever

The literature reveals that documentation complexity and application procedure opacity are primary reasons for non-enrolment among eligible households even when awareness exists. Digital marketing for social welfare schemes must be redesigned not merely as a promotional activity but as a service delivery facilitation tool. This means integrating 'how to apply' video guides, chatbot-assisted application walkthroughs, and document checklist tools directly within the mobile apps and CLAP portal, making the digital marketing touchpoint simultaneously an application support resource.Each DBT transfer notification sent to a beneficiary's registered mobile number is, in effect, a trust-reinforcing digital marketing message that demonstrates scheme functionality and payment reliability to the recipient and, through word-of-mouth, to their social network.DBT notification messages should be curated to include scheme progress updates, next-step guidance, and referral information for neighbours and family members who may also be eligible. This transforms a routine administrative notification into a viral organic marketing mechanism.

CSR-Linked Digital Marketing for Welfare Schemes

The study identifies a significant opportunity for digital marketing agencies, technology companies, and corporate CSR programmes to partner with welfare scheme administrators to develop high-quality, data-driven digital marketing assets. The National Health Authority's use of contests (reel-making, slogan-writing) under the Ayushman Bharat Digital Mission is an early example of this collaborative model. A structured Government–Industry Digital Marketing Partnership Programme, potentially mediated through bodies such as the Digital Marketing Association of India or NASSCOM, could systematically channel private sector digital marketing expertise into welfare scheme communication — producing outcomes that neither the public nor private sector can achieve independently.

CONCLUSION

This research paper contributes to the growing body of knowledge on digital governance, welfare, and public service

delivery. Previous research has only examined how digital governance improves administrative efficiencies but this study goes one step further to link digital marketing and communication channel to measurable economic outcomes.It shows how digital marketing can be a major enabler of welfare objectives. The study concludes that digital technology has significantly enhanced the effectiveness of welfare schemes in India. Digital marketing tools have improved awareness and accessibility, while digital delivery systems have strengthened transparency, accountability, and economic efficiency. PM-JAY, PMAY-U, and NULM collectively demonstrate that technology-driven welfare governance can improve healthcare access, housing support, and livelihood generation.

The study recommends that government should expand digital literacy programmes to improve welfare accessibility among marginalized populations; strengthen internet infrastructure in underserved urban areas to improve digital participation, integration AI-based monitoring and analytics to further enhance transparency and efficiency and emphasis multilingual digital interfaces. One area of contribution of this study is toward future research on digital marketing and its use by public agencies for welfare policymaking. It highlights the need for academia to look past traditional means of assessing welfare systems, limited to numbers served and unit cost. Scholars could use surveys or secondary data to conduct longitudinal or use econometrics to identify a causal relationship between digital marketing efforts and welfare impact. The overarching practical imperative distilled from the study is that digital marketing for social welfare must be held to the same standard of evidence-based effectiveness as any other public investment: designed with measurable outcome objectives, deployed with inclusive reach strategies, evaluated against welfare-economic KPIs, and iteratively refined based on beneficiary feedback and outcome data. Only then can digital marketing fulfil its genuine potential as an instrument of social equity and economic inclusion in India's ambitious welfare architecture.

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