

Promoting Social Inclusion through Digital Entrepreneurship: Insights from Marginalized Communities in Chennai

Shereen. A^{1*},

Research Scholar, IBMC, Mangalayatan University, Aligarh

Dr. Rajeev Sharma²,

Professor, IBMC, Mangalayatan University, Aligarh

Abstract:

The rise of digital technology has created new business opportunities, especially in cities where more and more people can get online. Digital entrepreneurship can make a big difference in poor areas like Chennai by giving people other ways to make money, learn new skills, and move up in their careers. But not everyone benefits equally from digital accessibility, institutional assistance, digital literacy and access to digital infrastructure are just a few of the things that can make it easier for people from low-income backgrounds to participate in and benefit from the digital economy. Digital entrepreneurship functions as a conduit for broader socioeconomic integration, rather than merely a means of income generation, enabling marginalised individuals to gain recognition, participate in networks, and capitalise on new opportunities. This study investigates the impact of digital tool accessibility, digital literacy, and outside assistance networks on the social inclusion of marginalised online entrepreneurs in Chennai. We used purposive and snowball sampling to get data from 112 people, and IBM SPSS 23 to analyse it. We used descriptive statistics, correlation analysis, One-Way ANOVA and logistic regression. The results and recommendations aim to identify key enablers and barriers in the pursuit of inclusive digital entrepreneurship in order to provide valuable insights to entrepreneurs, policymakers and support organisations working towards a digitally empowered and equitable socioeconomic development.

Keywords: Add keywords here.

INTRODUCTION

The digital shift has transformed the global market and created unprecedented opportunities for entrepreneurship through mobile technology, e-commerce, and online platforms. In cities like Chennai, the increasing use of cell phones, internet access, and digital payment methods has opened up new economic opportunities, particularly for underprivileged and informal communities. Beyond its financial potential, digital entrepreneurship gives people in marginalised communities a way to improve their socioeconomic standing, gain new skills, and become more independent. Structural disparities in digital literacy, access to digital infrastructure, and institutional support such as the government or non-profit-led initiatives often limit the effectiveness and accessibility of digital entrepreneurship. When considered through the lens of social inclusion, digital entrepreneurship is positioned to be a transformative force because it can facilitate integration into mainstream economic activity, encourage community involvement, and boost visibility and recognition. However, minimal is known about the extent to which it genuinely helps under-represented entrepreneurs in cities like Chennai. This study looks at digital access, technical competency, and external support networks in relation to the level of social inclusion experienced by excluded digital entrepreneurs.

Data from a sample of 112 participants selected through purposive and snowball sampling techniques is analysed in the study using IBM SPSS 23. Included are logistic regression, one-way ANOVA, correlation, and descriptive statistics. The results are meant to provide stakeholders, advocacy organisations, and lawmakers committed to advancing equitable digital development with useful guidance by highlighting significant elements that both support and impede inclusive digital entrepreneurship.

NEED FOR THE STUDY

Digital entrepreneurship has emerged as an effective tool for innovation and economic resilience in rapidly digitising cities like Chennai. The extensive use of mobile technology, internet connectivity, and digital financial instruments has opened up new opportunities for income generation and skill development in underprivileged areas. However, marginalised populations often remain excluded due to limited access to digital infrastructure, low levels of digital literacy, and a lack of institutional support. Despite national initiatives like Digital India, there is a lack of empirical research on the real-world challenges faced by these entrepreneurs. This study attempts to bridge that gap by examining the ways in which digital access, literacy, and support from governmental or non-governmental organisations impact social inclusion among marginalised digital entrepreneurs in Chennai. It also provides data-driven insights to inform inclusive policy, community empowerment, and equitable digital development.

SCOPE OF THE STUDY

This study intends to understand how digital entrepreneurship might enhance social inclusion among marginalised areas in Chennai's urban setting. It specifically looks into how three significant independent factors digital literacy, access to digital infrastructure and institutional support (from the government or non-profits) affect the level of social inclusion these entrepreneurs experience. The study is limited to under-represented groups that are actively engaged in digital entrepreneurship, such as businesses based on social media, online platforms for service delivery, and online sales. The findings are intended to inform academic researchers, support organisations, lawmakers and advocates for digital inclusion by highlighting significant enablers and barriers to inclusive digital entrepreneurship. The findings are intended to inform academic researchers, support organisations, lawmakers and advocates for digital inclusion by highlighting significant enablers and barriers to inclusive digital entrepreneurship. Despite its limited geographic focus on Chennai, the study's implications might be extended to other urban areas with similar socioeconomic characteristics and digital ecosystems.

OBJECTIVES OF THE STUDY

1. To evaluate the institutional support, digital literacy, and digital infrastructure of Chennai's marginalised digital entrepreneurs.
2. To investigate how the degree of social inclusion among marginalised digital entrepreneurs is correlated with digital infrastructure, digital literacy, and institutional support.
3. To compare the levels of social inclusion across different demographic groups of marginalized digital entrepreneurs.
4. To determine which digital infrastructure, digital literacy, and institutional support are the most important indicators of high versus low levels of social inclusion.

IMPORTANCE OF THE STUDY

Since technology and online platforms have been employed to support entrepreneurship, the study is crucial in this digital age. As India strives to create a technologically empowered society through initiatives like Digital India, the benefits of technological advancement must be shared with all segments of society, particularly marginalised communities. This research shows how social inclusion can be fuelled by digital entrepreneurship, particularly for people who have historically encountered systemic barriers that have kept them from engaging with mainstream economic systems. With a focus on Chennai's urban environment, the study offers insightful viewpoints on the challenges and opportunities faced by under-represented digital entrepreneurs.

Additionally, the findings provide helpful evidence for policymakers, non-governmental organisations and development groups seeking to develop more inclusive digital approaches and support systems. By stressing the essential functions of digital infrastructure, digital literacy, and institutional support, the study offers insights for targeted interventions that could empower marginalised groups, reduce inequality and promote sustainable economic engagement. Scholarly, by offering a paradigm that can be adjusted and expanded in various urban and regional contexts, the study contributes to the limited empirical literature on the connection between social inclusion and digital entrepreneurship in emerging nations.

STATEMENT OF RESEARCH PROBLEM

Not all societal sectors benefit equally from digital entrepreneurship, despite the rapid advancement of digital technology and the rising usage of mobile and broadband connections in Indian cities. When marginalised communities particularly those from low-income, socially disadvantaged, or informal employment backgrounds try to access digital infrastructure, acquire digital literacy and secure the institutional support necessary for successful participation in the digital economy, they often face significant challenges. A crucial knowledge gap about how these technological developments translate into significant social and economic inclusion for marginalised entrepreneurs at the local level still exists, despite national policies and initiatives to promote digital inclusion. The extent to which technological innovation promotes social inclusion between the marginalised in Chennai, a major urban centre with growing digital infrastructure, is not well studied empirically. Important factors that have not yet been fully investigated in terms of their effects on community participation, economic empowerment, and access to opportunities include the prevalence of support networks led by governmental or non-governmental organisations, the capacity to use technology for business and the availability of smart phones and the internet. By examining how digital entrepreneurship fosters social inclusion among Chennai's most vulnerable citizens, this study seeks to close this knowledge gap and contribute to the creation of more inclusive digital development policies and support networks.

RESEARCH METHODOLOGY

This study uses a descriptive research approach to investigate the effects of digital infrastructure, digital literacy, and institutional support on social inclusion among Chennai's under-represented digital business owners. Purposive and snowball sampling techniques were used to select a total of 112 respondents,

and a standardised Google Form survey was used to collect data. The survey collected information on demographics, digital tool accessibility, digital platform proficiency, and the kind of outside help received. For further analysis, IBM SPSS 23 software was used. It employed correlation analysis to look into relationships between independent and dependent variables, one-way ANOVA to compare social inclusion levels across demographic categories, qualitative statistics to profile the respondents and assess key variables, and logistic regression to identify significant predictors of high versus low social inclusion. This research approach enables a comprehensive and accurate understanding of the key factors promoting or hindering inclusive digital business ownership in an urban Indian setting.

REVIEW OF LITERATURE

1. **Lakshmi et al. (2025)**, examined the impact of Self-Help Groups (SHGs) on women entrepreneurs in Chennai. The findings showed that by improving income, self-confidence, and decision-making, SHGs greatly aided in the growth of social and economic empowerment.
2. **Paramasivan (2025)**, investigated the ways in which the startup scene in Tamil Nadu aids in achieving the Sustainable Development Goals (SDGs). The study found that entrepreneurs in sectors like IT, healthcare, and renewable energy significantly contribute to inclusive development, despite ongoing challenges from regional disparities and a lack of knowledge about the SDGs.
3. **Rengaraju et al. (2024)**, examined the ways in which tech-enabled social innovation is facilitated by digital platforms like blockchain, social media, and crowdfunding. While acknowledging issues like data privacy and the digital divide, the study highlighted their contribution to improving operational efficiency, increasing access to resources, and growing social entrepreneurship.
4. **Yazhini (2024)**, examined how women in Chennai's unorganised sector use digital payment systems. Although adoption was impacted by cultural standards, digital literacy, and infrastructure access, the study discovered that digital platforms enhanced women's financial agency.
5. **Yoganandham (2024)**, evaluated how Tamil Nadu's tribal women were affected by digital inclusion. Although it called for improved digital literacy and the infrastructure in tribal areas, the study did highlight enhancements in health-seeking behaviour, income potential, and livelihood enhancement as a result of access to digital tools.
6. **Amjad et al. (2024)**, investigated the factors that encourage transgender individuals in Pakistan to pursue digital entrepreneurship. found that people can overcome discrimination in conventional professional areas as a result to the economic opportunities and social exposure provided by internet platforms.
7. **Ghuri et al. (2022)**, provided a comprehensive examination of the various ways in which technological innovation promotes entrepreneurship in marginalised communities. The study provided a conceptual framework linking digital tools to inclusive development and capability enhancement, while also highlighting the lack of integrated research across technology, entrepreneurship and development studies.

ANALYSIS AND INTERPRETATION

Reliability Test

Table Showing Reliability Analysis

Particulars	Chronbach Alpha
Overall Reliability	0.944

Source: Primary Data

The Cronbach's Alpha rating of 0.944 for the 17-item scale indicates a high level of internal consistency, meaning that the items gauge a cohesive construct as a whole and are closely related to each other. Since they come from the fields of social inclusion, government/NGO support, digital literacy, and access to digital infrastructure, these components appear to embody the overall concept of digital empowerment among excluded businesses. The reliability coefficient shows that the tool is statistically robust and appropriate for further inferential analysis.

Descriptive Statistics

Table Showing Descriptive Analysis

Statistics	Access to Digital Infrastructure	Digital Literacy	Government/NGO Support
Mean	15.51	14.84	14.66
Median	16.00	15.00	16.00
Mode	16	16	16
Std. Error of Mean	0.276	0.244	0.317
Std. Dev	2.925	2.584	3.357
Min. mean value	7	9	4
Maximum. mean value	20	20	20

Source: Primary Data

Descriptive analysis indicates that respondents have relatively high degrees of digital literacy (M = 14.84, SD = 2.58), access to digital infrastructure (M = 15.51, SD = 2.93), and government or non-profit support (M = 14.66, SD = 3.36). The close correspondence of the primary tendency metrics (mean, median, and mode) throughout all three variables suggests that the responses were consistent. The larger standard deviation and range in the institutional support domain, surprisingly, suggest that the examined population's access to and use of these programs varies more. These results show how digital tools and assistance networks are distributed among Chennai's marginalised digital entrepreneurs in an uneven but generally positive manner. The results emphasise the need for targeted policy initiatives to close existing gaps, particularly in institutional outreach, in order to enhance inclusive digital empowerment.

Correlation

H₀: There is no significant relationship between access to digital infrastructure, digital literacy and government/NGO support and level of social inclusion among marginalised digital entrepreneurs.

Table Showing Correlation

Independent Variables	Level of Social Inclusion	Sig. (2-tailed)
Access to Digital Infrastructure	0.559**	p<0.01
Digital Literacy	0.760**	
Government/NGO Support	0.875**	

**** Significant @ 1% Level**

Pearson correlation analysis revealed statistically significant positive relationships between the degree of social inclusion and each of the three independent variables at the 0.01 level (2-tailed). There was a moderate relationship (r = 0.559, p < 0.01) between the availability of digital infrastructure and digital literacy, but a significant one (r = 0.760, p < 0.01). Government/NGO support had the strongest relationship (r = 0.875, p < 0.01), indicating that it significantly influences the promotion of inclusive outcomes. Since every correlation is significant and positive, the null hypothesis is rejected. By validating their positive correlations with increased social inclusion, these findings demonstrate the combined contribution of enhanced digital access, skill development, and institutional support to empowering marginalised entrepreneurs in urban technological environments.

One-Way ANOVA

H₀: There is no significant difference in the level of social inclusion across different social categories (e.g., SC, ST, OBC, Others) among marginalised digital entrepreneurs in Chennai.

Table Showing One-Way ANOVA

Variables	Mean Square	F-Statistics	Sig
Social Category and Level of Social Inclusion	1.580	0.076	0.973
	20.678		

Source: Primary Data

A One-way ANOVA was conducted to determine whether there are significant differences in the level of social inclusion among marginalised digital entrepreneurs based on their social classification (scheduled caste, scheduled tribe, other backward classes, and others). The analysis produced an F-Statistic of 0.076 and a corresponding significant value of 0.973. Because the p-value is much greater than the conventional alpha threshold of 0.05, the result is not statistically significant. This implies that the sample's different caste-based social groups do not significantly differ in the level of social inclusion that digital entrepreneurs encounter. The findings indicate a fairly consistent perception of digital empowerment and social involvement, independent of caste identity, indicating that the outcomes of digital programs for entrepreneurship may be broadly inclusive in this context.

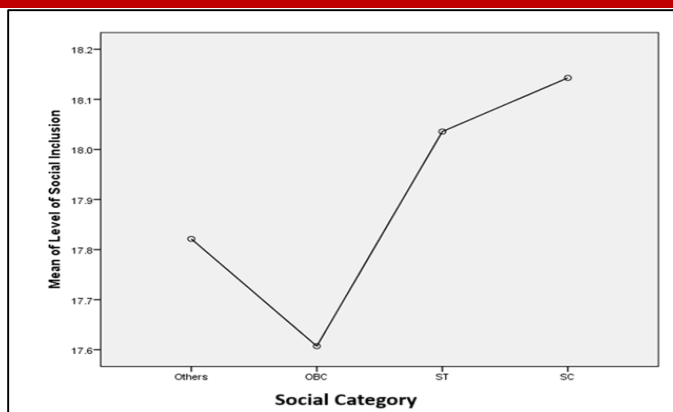


Chart Showing One-Way ANOVA Between Social Category and Level

Source: Primary Data

Among marginalised digital entrepreneurs in the social classes categories of OBC, ST, Others and SC, the line graph displays the average level of social inclusion. Although there are some minor variations in the visual distribution, overall differences were not statistically significant ($p = 0.973$). Participants in the SC and ST groups identified slightly greater perceptions of social inclusion than those in the OBC and Other groups. The OBC group had the lowest mean, and the SC group had the highest. While not statistically significant, the pattern suggests a shift towards more equitable digital empowerment by raising possibilities that members of historically under-represented groups are benefiting more from digital entrepreneurial activities than others.

Logistics Regression

H₀: Access to digital infrastructure, digital literacy and government/NGO support do not significantly predict the level of social inclusion among marginalised digital entrepreneurs.

Component	Result / Value	Interpretation / Notes
Omnibus Test (Model Chi-Square)	$\chi^2 = 71.936, df = 3, p < 0.001$	Model significantly improves prediction over baseline (null) model
Hosmer & Lemeshow Test	$\chi^2 = 0.000, p = 1.000$	Indicates perfect model fit (possibly due to overfitting or data issues)
Nagelkerke R ²	1.000	Model explains 100% of the variance in the dependent variable
Classification Accuracy	100% for both categories	Perfect prediction accuracy, but may suggest overfitting
Convergence Status	Terminated at iteration limit	Indicates potential issues with model convergence
Independent Variables	B Coefficient	Std. Error
- Government/NGO Support	13.173	Very High
- Digital Literacy	-7.494	Very High
- Access to Digital Infrastructure	4.911	Very High
Model Issues Identified	- Multicollinearity- Perfect Prediction- Small Sample	Requires caution and further testing (e.g., VIF, larger sample, category balancing)

A binary logistic regression was used to assess how three independent variables digital literacy, government/NGO support and having access to digital infrastructure affect the likelihood of feeling highly socially included. The omnibus test of model coefficients yielded a significant chi-square value ($\chi^2 = 71.936, df = 3, p < 0.001$), indicating that the entire model significantly improves prediction over the baseline model without predictors. The model fits the data quite well, according to the Hosmer and Lemeshow test ($\chi^2 = 0.000, p = 1.000$). Although this exceptionally perfect fit and the termination because of iteration limits may indicate that the model may be overfitting or multicollinear, the Nagelkerke R² value of 1.000 indicates that the model should account for 100% of the variation in social inclusion classification. 100% of cases in both groups were correctly classified, indicating perfect prediction accuracy in the classification table. High model performance is indicated by this, but caution is advised because such perfect precision is rare in practice.

The parameter estimations were unstable, as evidenced by the extreme coefficient values of all three variables with insignificant Wald statistics ($p > 0.99$) for individual predictors: NGO Support ($B = 13.173$), Digital Literacy ($B = -7.494$), and Access ($B = 4.911$). This instability, when paired with differently high standard errors, raises the possibility that the model struggled with convergence, most likely due to a lack of examples in one category or multicollinearity among predictors. The model's overall significance and high classification accuracy notwithstanding, the large standard errors and p-values above 0.99 suggest that the individual predictor variables Access to Digital infrastructure, Digital Literacy, and Government/NGO Support did not produce statistically significant coefficients. These anomalies point to instabilities in the parameter projections, which could be brought on by the dataset's multicollinearity or problems with perfect prediction. When interpreting the distinct impact of each independent variable, care must be taken, even though the model shows a strong overall connection between its predictors and the probability of greater social inclusion. For the final regression model to be robust and valid, additional diagnostic testing and model adjustment are advised, including expanding the sample size, examining for collinearity, and balancing the outcome categories.

SUGGESTIONS AND CONCLUSION

The significance of digital entrepreneurship in promoting social inclusion in Chennai's in need neighbourhoods is highlighted by this study. Key enablers that have been identified include digital literacy, access to digital infrastructure and strong institutional support, particularly from governmental and non-governmental organisations. Institutional support was the most significant of these, according to correlation research, which found strong positive relationships with levels of social inclusion. The uniformity of inclusion across groups shows how digital platforms can close traditional social divides, even though demographic variables like social class had no appreciable impact. Although the results of logistic regression demonstrated a high degree of predictive accuracy, issues like perfect classification and multicollinearity suggest that further research is necessary. Enhancing digital literacy through targeted training programs that cover online business, financial management, and useful technology skills is essential in light of these findings. Bridging the digital gap requires increasing access to reasonably priced electronic devices and internet. Content must be delivered in indigenous languages and in culturally appropriate formats to increase engagement. It's also necessary to improve availability of institutional support, such as funding, mentoring, and incubation services, especially for new business owners. Governmental organisations, non-governmental organisations, academic institutions and the private sector must collaborate to build a resilient and welcoming digital ecosystem that ensures marginalised people's significant engagement in the digital economy.

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