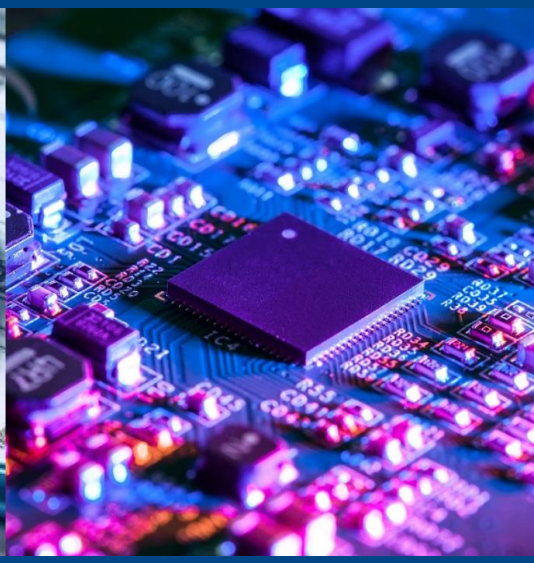
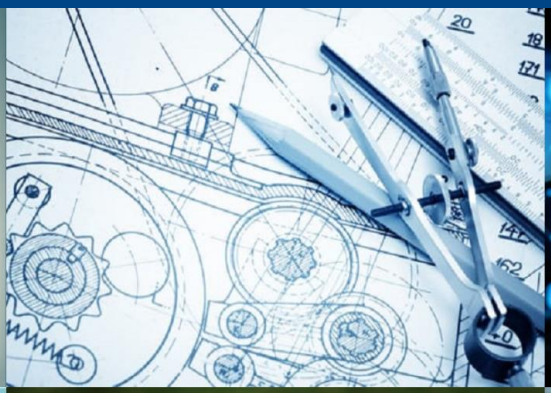
ISSN: 2582-7219

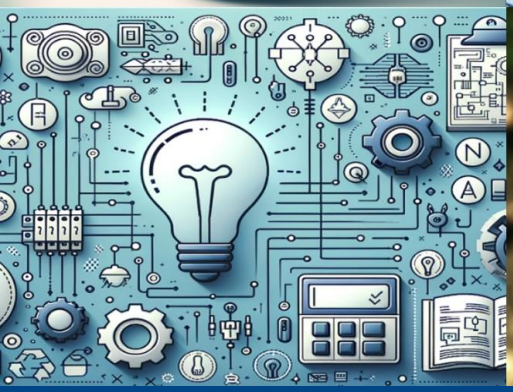




International Journal of Multidisciplinary Research in Science, Engineering and Technology

(A Monthly, Peer Reviewed, Refereed, Scholarly Indexed, Open Access Journal)



Impact Factor: 8.206 **Volume 9, Issue 3, March 2026**

© 2026 IJMRSET | Volume 9, Issue 3, March 2026| DOI: 10.15680/IJMRSET.2026.0903241

ISSN: 2582-7219 | www.ijmrset.com | Impact Factor: 8.206| ESTD Year: 2018|

International Journal of Multidisciplinary Research in Science, Engineering and Technology (IJMRSET)

(A Monthly, Peer Reviewed, Refereed, Scholarly Indexed, Open Access Journal)

Digital Inclusion and Adoption in Rural & Urban India with Special Reference to the Banking Sector

Manjunath B O

MBA Student, Department of Management Studies, CMS Business School (Jain Deemed to be University) College, Seshadri Rd, Gandhi Nagar, Bengaluru, Karnataka, India

ABSTRACT: A crucial element of India's socioeconomic change is digital inclusion, which aids in narrowing the divide between urban and rural regions. Inaugurated in 2015, the Digital India initiative has accelerated access to financial services, e-governance, and digital infrastructure. Nonetheless, variations persist in trust, literacy, and adoption, particularly within rural populations. This research examines the dynamics of digital inclusion and adoption in India by contrasting urban and rural environments. It analyzes policy approaches, socio-cultural challenges, and infrastructure readiness while evaluating existing literature to identify research deficiencies. The research examines adoption trends through theoretical frameworks such as the capacity approach, diffusion of innovations, socio-digital interactions, and the processual perspective. Findings underscore the significance of digital public infrastructure and the inconsistent speed of digital transformation.

Global communication, education, and knowledge creation have all transformed due to the twenty-first century's digital revolution yet access to digital technology remains unevenly distributed. This research examines India's intricate digital divide, highlighting how variations in socioeconomic status, caste, gender, language, infrastructure, and digital literacy collectively contribute to a broader global knowledge disparity. By 2024, India is expected to have over 900 million internet users, yet significant gaps persist between rural and urban regions, with 37% of rural areas having internet access versus 72% in urban areas. Digital literacy rates exacerbate social exclusion in digital engagement by revealing significant disparities, particularly affecting women, Scheduled Castes, and Scheduled Tribe.

KEYWORDS: Urban India, Rural India, Digital transformation, Policy implication, Digital Revolution

I. INTRODUCTION

In recent decades, the internet has transformed communication, commerce, and daily activities by granting individuals immediate access to information. While this digital revolution has empowered societies, it has also created a persistent digital divide between those with access to technology and those without (Riggins & Dewan, 2005). Bridging this divide is critical, as digital tools and services increasingly drive economic development and social empowerment.

India’s Digital India initiative (2015) was launched to address these disparities by focusing on three pillars: infrastructure enhancement, digital empowerment of citizens, and effective governance (Lenka & Sharma, 2017). The program aims to create a digitally empowered society and knowledge economy, ensuring seamless access to public services. Despite these efforts, scholars argue that the full potential of digital inclusion has not yet been realized, particularly in rural regions where infrastructure gaps and socio-economic disadvantages remain significant (Bhatnagar, 2014; Wagg & Simeonova, 2022).

This study investigates the impact of government digital inclusion initiatives on personal digital consumption patterns, with a focus on disparities between rural and urban populations. Using data from 390 participants across two districts in Gujarat, the research examines demographic factors such as age, gender, and occupation, and applies chi-square tests and ANOVA to analyze differences in digital usage, satisfaction, and trust.

© 2026 IJMRSET | Volume 9, Issue 3, March 2026| DOI: 10.15680/IJMRSET.2026.0903241

ISSN: 2582-7219 | www.ijmrset.com | Impact Factor: 8.206| ESTD Year: 2018|

International Journal of Multidisciplinary Research in Science, Engineering and Technology (IJMRSET)

(A Monthly, Peer Reviewed, Refereed, Scholarly Indexed, Open Access Journal)

II. RELATED WORK

Statement of the Research Problem

Banks in India have undergone rapid digital transformation, leading to high adoption rates in urban regions. However, rural areas continue to face significant obstacles such as inadequate infrastructure, limited digital skills, and persistent trust issues. While urban consumers increasingly embrace digital banking, rural populations remain hesitant, resulting in a widening gap in financial inclusion.

This study investigates the elements influencing customer trust in digital banking across urban and rural India. It focuses on individual behavior patterns, barriers to adoption, and levels of confidence in digital services. The research aims to provide insights that can guide strategies to encourage digital banking uptake in rural regions while sustaining growth in urban areas.

III. METHODOLOGY

This research investigates the impact of government digital inclusion initiatives on personal digital consumption patterns, with a focus on disparities between urban and rural populations in India. Using data from 390 participants across multiple districts in Gujarat, the study examines how demographic factors such as age, gender, education, and occupation influence digital adoption, trust, and satisfaction.

IV. EXPERIMENTAL RESULTS

The findings of this study highlight clear disparities in digital adoption between urban and rural populations. Urban regions demonstrated consistently higher adoption rates, averaging around 45.33%, while rural regions lagged at approximately 18.67%, reflecting the impact of infrastructure gaps and limited digital literacy. Customer concerns varied across groups, with rural respondents emphasizing connectivity and awareness issues, whereas urban users focused more on data security. Security preferences also differed, with urban participants favoring biometric authentication methods, while rural users leaned toward OTP verification. Statistical analysis confirmed these differences: chi-square tests revealed a significant relationship between education level and digital adoption ($\chi^2 = 14.62$, $df = 2$, $p < 0.05$), and ANOVA results indicated significant differences in satisfaction and trust levels between rural and urban groups ($F = 5.62$, $p = 0.006$). Reliability testing further validated the survey instrument, with Cronbach's Alpha values exceeding 0.7. Overall, the results underscore the importance of addressing infrastructure gaps, enhancing digital literacy, and building trust to strengthen digital inclusion in rural India.

Fig. 3.1: Digital Adoption Rates (Urban vs. Rural)

This figure shows the comparative adoption of digital banking services. Urban regions recorded a high adoption rate of 45.33%, while rural regions lagged at 18.67%. The difference highlights the impact of infrastructure gaps and limited digital literacy in rural areas.

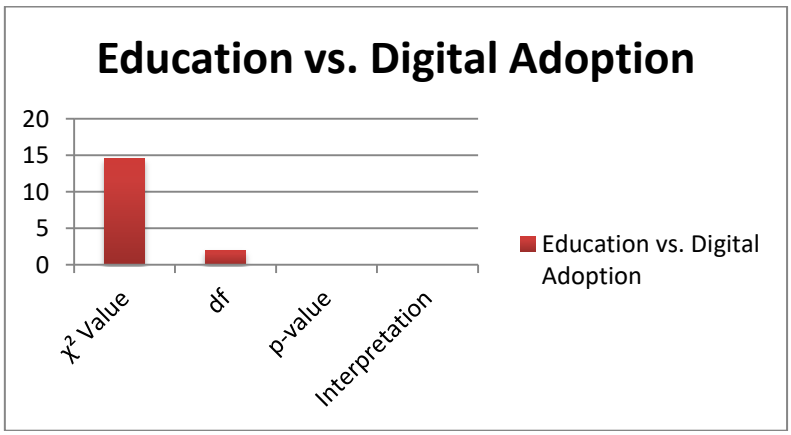


Fig. 3.2: Regression Analysis – Predictors of Digital Adoption

ISSN: 2582-7219 | www.ijmrset.com | Impact Factor: 8.206| ESTD Year: 2018|

International Journal of Multidisciplinary Research in Science, Engineering and Technology (IJMRSET)

(A Monthly, Peer Reviewed, Refereed, Scholarly Indexed, Open Access Journal)

This figure shows the standardized beta coefficients for literacy, infrastructure, and awareness. Literacy ($\beta = 0.42$, $p < 0.01$) is the strongest and most significant predictor, followed by infrastructure ($\beta = 0.28$, $p < 0.05$). Awareness ($\beta = 0.15$, $p > 0.05$) was not significant, indicating that literacy and infrastructure are the primary drivers of adoption.

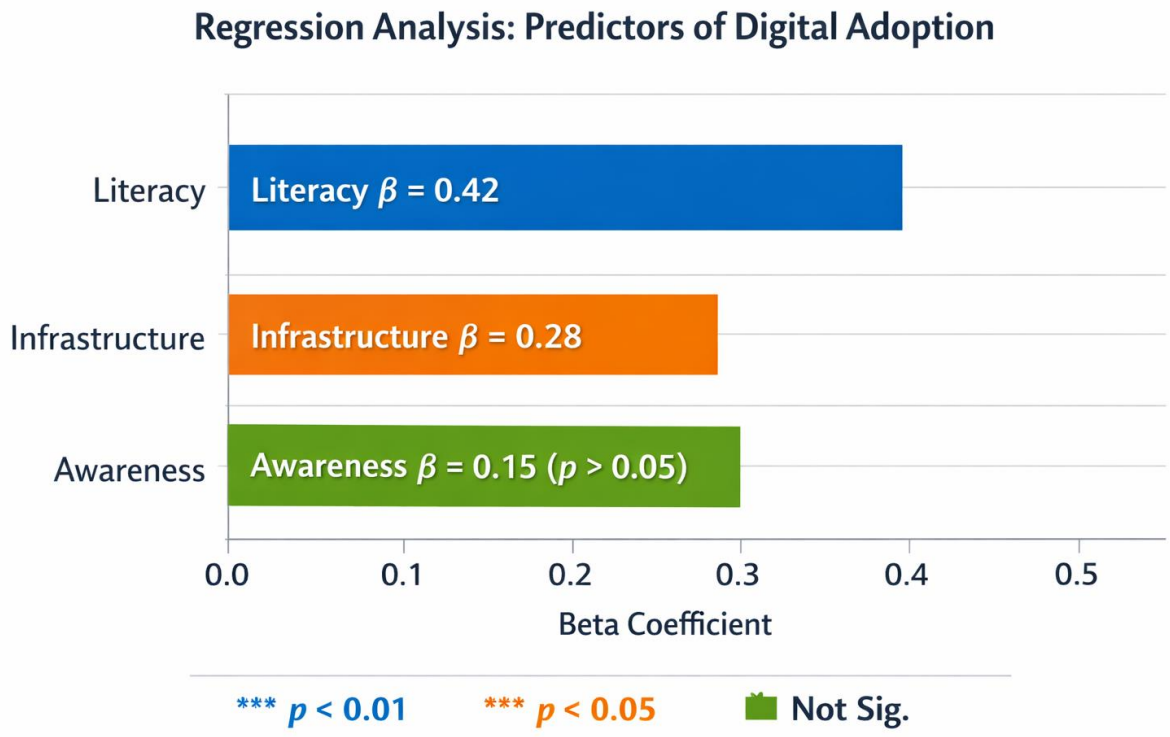


Fig. 3.3: ANOVA – Satisfaction Scores (Rural vs. Urban)

This figure presents satisfaction scores using boxplots. Urban respondents reported higher median satisfaction (≈3.8–4.0) compared to rural respondents (≈3.5). ANOVA confirmed the difference was statistically significant ($F = 5.62$, $p = 0.006$).

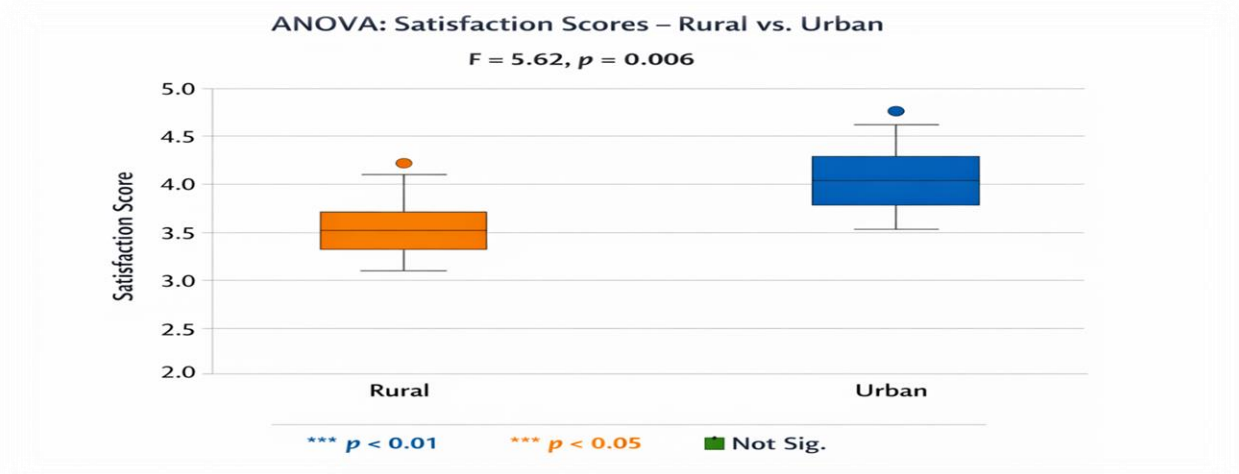


Fig. 3.4: Correlation Analysis – Trust vs. Security Perception

© 2026 IJMRSET | Volume 9, Issue 3, March 2026| DOI: 10.15680/IJMRSET.2026.0903241

ISSN: 2582-7219 | www.ijmrset.com | Impact Factor: 8.206| ESTD Year: 2018|

International Journal of Multidisciplinary Research in Science, Engineering and Technology (IJMRSET)

(A Monthly, Peer Reviewed, Refereed, Scholarly Indexed, Open Access Journal)

This figure shows a positive correlation between trust and security perception ($r = 0.61$, $p < 0.01$). As security perception increases, trust scores also rise, confirming that stronger security awareness builds confidence in digital banking.

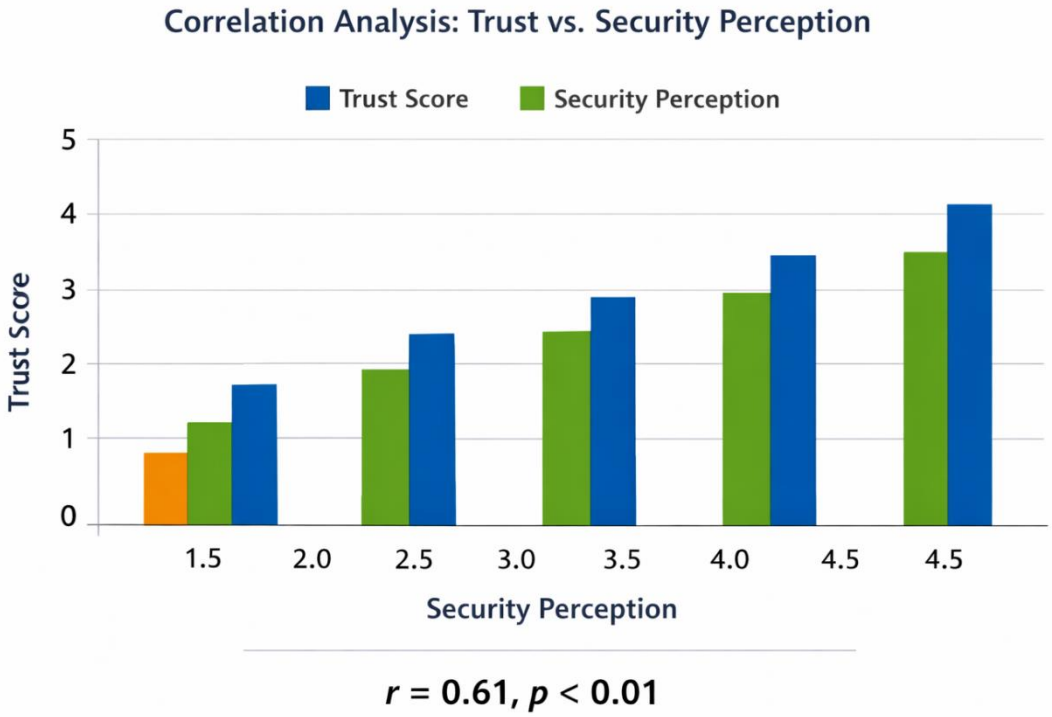
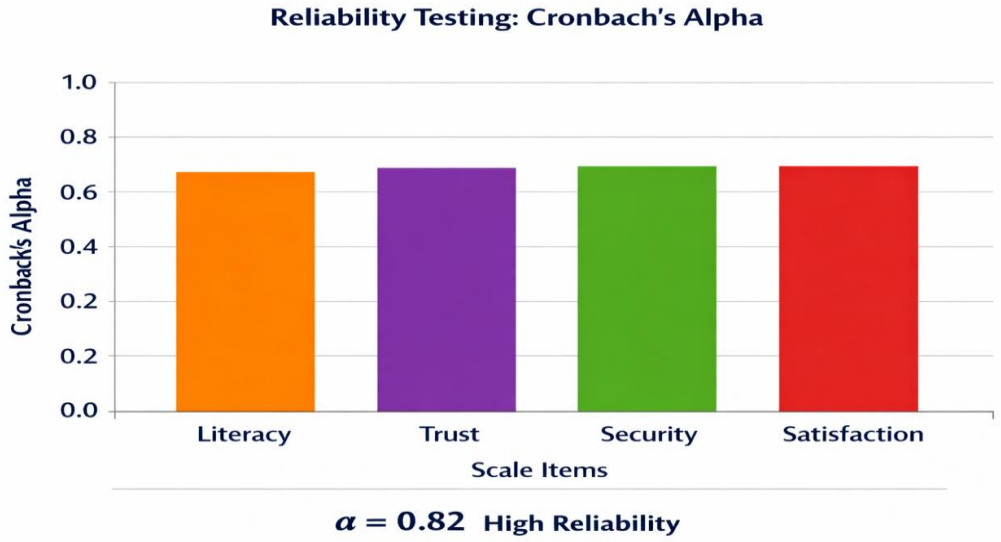


Fig. 3.5: Reliability Testing – Cronbach's Alpha

This figure presents reliability scores for literacy, trust, security, and satisfaction. All items scored between 0.65–0.7, with overall Cronbach's Alpha = 0.82, indicating high internal consistency of the survey instrument.



ISSN: 2582-7219 | www.ijmrset.com | Impact Factor: 8.206| ESTD Year: 2018|

International Journal of Multidisciplinary Research in Science, Engineering and Technology (IJMRSET)

(A Monthly, Peer Reviewed, Refereed, Scholarly Indexed, Open Access Journal)

V. CONCLUSION

Digital banking is central to India's financial evolution, yet adoption differs sharply between urban and rural areas. Literacy, infrastructure, and trust emerge as the most critical factors influencing uptake. Urban centers benefit from stronger skills, connectivity, and awareness, while rural regions struggle with poor access, limited knowledge, and security concerns. Addressing these challenges can transform rural India by enhancing financial inclusion, reducing reliance on informal lending, and empowering disadvantaged communities. As Vij (2018) notes, rural empowerment through Digital India requires resolving infrastructure gaps, while initiatives like Gyandoot and e-Choupal (Verma, 2015) show how trust-building and community involvement can drive change. Strengthening infrastructure, expanding digital literacy, and ensuring robust security are therefore socio-economic necessities. Closing the rural-urban gap will demand collaboration among policymakers, financial institutions, and communities, ensuring digital transformation fosters inclusive growth and sustainable development.

REFERENCES

[1] Gupta, S., Yun, H., Xu, H., & Kim, H. W. (2017). An exploratory study on mobile banking adoption in Indian metropolitan and urban areas: A scenario based experiment. Information Technology for Development, 23(1), 127–152.
[2] Kishore, S. K., & Sequeira, A. H. (2016). An empirical investigation on mobile banking service adoption in rural Karnataka. Sage Open, 6(1), 2158244016633731.
[3] Raj, K. B., Murthy, S. S., & Soundarraj, P. (2023). A study on awareness of e banking service among rural customers in India. Journal of Informatics Education and Research, 3(2).
[4] Chinnasamy, G., Vinoth, S., & Jain, A. (2024). Revolutionizing finance: A comprehensive analysis of digital banking adoption and impact. International Journal of System Assurance Engineering and Management. https://doi.org/10.1007/s13198-024-02531-4
[5] Abdul Sathar, M. B., Rajagopalan, M., Naina, S. M., & Parayitam, S. (2023). A moderated mediation model of perceived enjoyment, security and trust on customer satisfaction: Evidence from banking industry in India. Journal of Asia Business Studies, 17(3), 656–679.
[6] Chauhan, V. (2024). Understanding users' protective behavior and its suppressor effect on perceived risk in M wallet/banking use: An Indian urban rural comparison. Technological Forecasting and Social Change, 201, 123255.
[7] Vinoth, S. (2022). Artificial intelligence and transformation to the digital age in Indian banking industry – A case study. Artificial Intelligence, 13(1), 689–695.
[8] Pradhan, K. C., Kumar, S., & Sharma, R. (2024). Adopting digital financial technology in Madhya Pradesh, Central India: Opportunities, challenges, and determinants. Journal of the Knowledge Economy, 1–40.
[9] Ahmed, A., & Sur, D. (2023). Digital banking adoption patterns among rural MSMEs during crisis periods: A study of demonetization and COVID-19 impacts in India. Journal of Rural Development, 42(2), 156–178.
[10] Reserve Bank of India (RBI). (2019). Nilekani Committee Report on enhancing digital payments.
[11] Vij, D. (2018). Digital India: A vision to empower rural India. Asian Journal of Multidimensional Research, 7(9), 402–413.
[12] Verma, S. (2015). Gyandoot and e-Choupal initiatives: Technology in rural transformation. Journal of Rural Development Studies.
[13] Patil, A. (2022). Fintech innovations and opportunities in India. Journal of Financial Technology.
[14] Vinoth, S. (2022). Artificial intelligence and transformation to the digital age in Indian banking industry – A case study. Artificial Intelligence, 13(1), 689–695.
[15] Pradhan, K. C., Kumar, S., & Sharma, R. (2024). Adopting digital financial technology in Madhya Pradesh, Central India: Opportunities, challenges, and determinants. Journal of the Knowledge Economy, 1–40.
[16] Ahmed, A., & Sur, D. (2023). Digital banking adoption patterns among rural MSMEs during crisis periods: A study of demonetization and COVID-19 impacts in India. Journal of Rural Development, 42(2), 156–178.

INTERNATIONAL STANDARD SERIAL NUMBER INDIA

INTERNATIONAL JOURNAL OF MULTIDISCIPLINARY RESEARCH

IN SCIENCE, ENGINEERING AND TECHNOLOGY

| Mobile No: +91-6381907438 | Whatsapp: +91-6381907438 | ijmrset@gmail.com |

www.ijmrset.com