

The Role of Community Libraries in Promoting Digital Literacy: A Study of Rural Communities in Jamtara District, Jharkhand

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Abstract

In the current digital age, the ability to find, utilize, and engage with technology, or ICTs, is essential for learning, employment, government procedures, and social interactions. But there is still a large digital divide in the rural areas of India, with one example being Jamtara district in Jharkhand. This is a gap that is created due to ineffective infrastructure, resources and awareness. The role of the community in bridging this divide is played by the public libraries which can provide people with access to digital, training and help. The research paper examines the impact of the role played by the public libraries regarding digital literacy in rural Jamtara district. The article employs a quantitative design scheme, as researchers gathered data on 250 participants in the form of a structured questionnaire. Findings indicate that there is a high positive relationship between the availability of digital resources and digital literacy ($R^2 = 0.502$) and a significant influence of training and support programs on literacy ($R^2 = 0.457$). These results affirm that the role of the public libraries is substantial in enhancing the level of digital skills in a rural setting. The research suggests that it should be reinforced with digital infrastructure, train the staff better, and get the government support to re-establish the role of libraries as major drivers of digital inclusion. Providing rural dwellers with digital skills, the public libraries are able to support self-inclusive development and enhance the objectives of digital transformation in the Jharkhand towards equity.

Keywords: Public Libraries, Digital Literacy, ICT, Rural Development, Jamtara District, Jharkhand, Digital Inclusion.

I. INTRODUCTION

Over the last 20 years, the digital literacy defining the ability to use information and communication technologies (ICTs) as a means of locating, evaluating, creating, and sharing information has become a prerequisite to complete participation in education, employment, state, and daily living. In India, swift advancements in mobile connectivity and internet penetration have revolutionized opportunities; however, significant disparities between rural and urban areas remain regarding access and proficiency. Public libraries, tasked with ensuring public access to knowledge, are distinctly equipped to bridge this divide by offering ICT infrastructure, digital resources, training, and community outreach.

A Research in Trivandrum district, Kerala, indicated that although basic computer skills were prevalent among public library users, the utilization of more advanced or

diverse ICT tools was restricted; several libraries were deficient in modern technology and adequate training resources.

Digital literacy is very important for rural communities in Jharkhand. Recent state statistics show that the overall literacy rate in Jharkhand has risen to about 73.85%. However, literacy rates in rural areas are still much lower than in urban areas (rural ~71%, urban significantly higher), and they are especially low among women in rural areas. The Annual Status of Education Report (ASER) 2023 states that many young people (ages 14 to 18) in rural Jharkhand are good at using smartphones and social media, but they still struggle with schoolwork that requires more traditional skills.

The evidence indicates a situation in rural Jharkhand where (a) access to devices and mobile phones surpasses functional digital literacy; (b) there exists a disparity between the tools available to individuals and their

proficiency in utilizing them for learning, governance, or productive endeavors; and (c) public institutions and interventions, excluding schools, are largely underutilized or inadequately developed. Historically, public libraries in India have concentrated on book lending and the promotion of reading; nevertheless, they are increasingly seen as community digital access points and literacy centers. In addition to the previously discussed Kerala studies, recent literature explores the integration of digital literacy programs, training workshops, awareness services, and outreach initiatives in libraries. As an illustration, the article titled Public Libraries as Hubs for AI Literacy and Digital Skills (IJLIS, 2025) explains that libraries should become active participants in helping people develop modern digital skills.

➤ *Problem Statement*

In the world of the Internet, knowledge of how to read, comprehend, and use technology is the key to education, employment, government, and social life. However in the rural India, one of the biggest development issues is still the digital divide. Jharkhand, particularly some of its districts such as Jamtara continue to experience low rate of internet penetration, poor infrastructure, and low levels of digital literacy despite state-wide schemes such as Digital India and National Digital Literacy Mission. Previously, public libraries were viewed as being only a source of books but now help in bridging this gap. They are able to supply the rural communities with computers, internet, learning materials in digital forms as well as training programs. But the potential of the public libraries in digital literacy has not been exploited or used wholly in most areas of Jharkhand. An evaluation of the effectiveness of public libraries in making people digitally literate by accessing resources and providing training should be done in Jamtara district characterized by economic boundaries and infrastructure issues. There is a research gap as there is no evidence on this matter. This research paper will look at the role of digital resources and training programs in public libraries on the digital literacy of rural residents in Jamtara. Policy discussions around digital inclusion in rural areas and the modernization of libraries in India are likely to be shaped by the findings.

➤ *Objectives*

- To evaluate impact of access to digital resources in public libraries on digital literacy.
- To determine impact of training and support programs on digital literacy.

➤ *Hypothesis*

- H₀: There is no significant impact of access to digital resources in public libraries on digital literacy.
- H₁: There is significant impact of access to digital resources in public libraries on digital literacy.
- H₀: There is no significant impact of training and support programs on digital literacy.
- H₂: There is significant impact of training and support programs on digital literacy.

II. LITERATURE REVIEW

(Mansor et al., 2025) The paper investigates the perception of the users concerning the sustainability of digital technology in the rural town libraries. It uncovers chances and obstacles that influence the implementations of these innovations by the low-income communities. According to the results of surveying 2,660 people, the research argues that the apparent challenges to the successful application and integration of digital technology include low digital literacy, insufficient infrastructure, and service quality. The paper emphasizes the role of rural libraries reducing digital divides through the provision of relevant services to customers and provision of sustainable and easy-to-access solutions. Specific service quality enhancement, awareness efforts, and infrastructure upgrading are the keys to the growth of rural digital programs and user satisfaction.

(Rwotolonya, 2023) Nowadays, people's ICT skills are crucial. As evidence, 20% of Ugandans are tech-savvy while 36% lack internet access. To empower western Ugandan communities, this study examined how public libraries can foster digital literacy. This study investigated how western Ugandan public libraries promote digital literacy for community empowerment and what challenges they encounter. In this case study, western Ugandan public libraries were researched to learn about their services, techniques, and challenges in empowering their community through digital literacy. Community engagement, in-person training, and hands-on activities by Ugandan public libraries are leading the way in digital literacy, according to studies. Through these workshops, neighborhood members learn to use phones, computers, and produce liquid soap and shoes. Internet access and information are offered by many libraries to bridge the access gap. But they confront many challenges, including insufficient cash, unstable power, a lack of ICT skills, and a shortage of library staff. Uganda must raise taxes, hire more people, create a national digital skills framework, and mandate ISPs to give free internet to public libraries to become digitally literate.

(Inamdar, 2023) The paper explores how libraries can promote 21st-century digital literacy. Technology skills are crucial in today's society, whether you're in school, work, or just going about your regular life. Digital literacy is the ability to find, evaluate, use, and create digital information ethically. Libraries continue to promote digital literacy in this digital age, drawing on their long history as learning hubs. Library programs offer digital resources and technology training to help people use technology safely. Libraries can bridge the digital gap and promote digital inclusion by linking people with less access to technology with those with more. Modern libraries encourage digital literacy in numerous ways, as this essay shows. Digital media literacy is essential in most fields nowadays. Libraries are crucial to closing the digital gap and equipping everyone to become digital citizens. Libraries encourage people of all ages and backgrounds to become digital citizens by providing training, resources, and technology. Libraries' role in digital literacy will rise

as society relies on technology. Libraries are vital to our future digital society because they educate and allow everyone to use technology. This study used secondary sources such as articles, journals, websites, and research papers.

(Suman Barath & Sudhier, 2023) This research examined the Thiruvananthapuram-based Kerala State Central Library (KSCL) to determine the potential role of public libraries in bridging the digital divide. A descriptive survey using a pre-designed questionnaire was administered to library visitors. We discussed the digital divide and its causes, as well as the library's electronic resources and e-governance services, as well as the internet's function in library operations. Nearly half of library users (47%) and nearly 40% of internet users (39%) are unaware that the library provides access to various forms of information and communication technology (ICT). Nearly half (43.2%) of respondents preferred photocopying, while nearly a third (31.8%) preferred OPAC. For reading, research, and job searches, nearly half of all library users use the library's electronic resources, including e-journals and e-books. The two most used library e-governance information services were M-governance (12.8%) and E-district (12.0%). The users themselves have identified illiteracy and inadequate knowledge of ICT as the primary causes of the digital divide. A non-parametric test revealed the factors that contribute to the digital divide and the significant differences in internet use based on location and purpose. Vital public library services include assisting the general public in overcoming the digital divide and gaining access to employment, educational opportunities, and government services. Some of the suggestions made by the participants included holding orientations to familiarize users with the library's resources and educating them about new technologies.

(Sharma, 2020) The purpose of this research is to find out how public libraries can make a difference in people's ability to use technology. To see the significance of digital literacy, in all its various forms, better is to define what it is. One of the aspects of digital literacy involves supporting individuals to become digitally savvy and that is where the public libraries come in. The real development will occur when every person will be capable of making good use of digital information and invests in the creation of the prosperous information society.

(Chatterjee et al., 2020) The public libraries remain important in terms of educating the community users. This study investigates the role played by the public libraries in the advancement of the users through social education and how this is translated into community literacy. The article indicates the importance of the public libraries by examining their advantages and researching their effect on the community and social learning. Public libraries can promote high literacy levels in their areas since they are the custodians of local knowledge. This work aims to discuss the role of this by the public libraries in terms of the information literacy and community education movement in our society. Public libraries have a great

offer in terms of knowledge and this knowledge can be shared with community information services and this supports education of the users. The model makes clarifications and analysis on the effectiveness of information retrieval process in the public libraries and demonstrates implications on the education of the users and community literacy. The paper also dwells upon the necessity of existing libraries in the digital era and presents the facts proving that they will be useful nowadays, which proves that user education can influence the positive social change.

(Real et al., 2014) The study of the public libraries in rural settings is not that extensive as compared to the study of libraries. Although it is evident that libraries in both urban and suburban environments have more technical services, compared to those in the rural settings, their reasons and effects are not clearly explained. The authors integrate the information of the Public Library Technology and Access Study with smaller researches to illuminate further on these problems. Using Digital Inclusion model, it is evident that there are other factors beyond the physical infrastructure that address the disparity between rural and urban libraries. The rural libraries have a hard time offering the same quality of customer service because of the funding arrangements based on the local revenues and fewer employees, which might not indicate the absence of commitment. The authors provide potential solutions and explain the issues that should be dealt with to eliminate such inequities.

(Bertot, 2016) The United Nations has set up a set of sustainability goals 2030, in response to increasing social inequality, and the need to have sustainable societies via increased opportunities. Demographic changes, population growth, and mobility are mounting calls to communities that provide inclusive cultures that would present equal opportunities to everyone. In this research, the survey was conducted among the public libraries across the country as they are community-based structures that seek to establish digitally inclusive communities. According to the article, digital inclusion (DI) is an important service offered by the US and European countries to the public via libraries. These services encompass a wide scope of opportunity in terms of economics, education, health, and civic participation, as well as free access to ICTs, broadband and digital literacy skills. The research also concludes that physical space of a library is associated with its capacity to provide digital services. The paper finally concludes by highlighting the necessity of further research to identify the type and level of library DI services that do help the UN Sustainability Goals targets of poverty, inequality and inclusion.

III. RESEARCH METHODOLOGY

This methodology provides a definite process of gathering, evaluating and interpreting data on the enhancement of digital literacy in rural Jamtara district, Jharkhand by the public libraries. The research methodology is a quantitative study, where the impact of

access to digital resources and training programmes on the digital literacy of the users is measured.

➤ *Research Design*

Study design was descriptive-analytical because we needed to know and measure the relationship between library interventions and digital literacy results. The descriptive section denoted demographics and usage trends. The analytical section explored the associations of independent variables, which were digital resources, training, support, and dependent variable, which is digital literacy. Survey was used to gather primary data and hypothesis was tested using statistical tool.

➤ *Research Approach*

The quantitative methodology provided objective and measurable information. Correlations and regression used to determine the strength and significance of relationships between variables were evaluated using statistical techniques. This not only guaranteed there was data accuracy but also made it possible to generalise about the population studied.

➤ *Sampling Design*

The research was conducted in some of the rural locations within Jamtara district, Jharkhand. The respondents included users of libraries in the district. Simple random sampling was employed to have equitable sample of representation in terms of ages, genders and

levels of education. The number of respondents was 250 and this was sufficient to do some sound statistical analysis. The libraries used in data collection were of varied sizes and facilities thus providing a wide access and usage.

➤ *Tools for Data Collection*

A five-point Likert scale was used as the primary data with the following options of 1 Strongly Disagree, 5 Strongly Agree.

➤ *Data Analysis*

The data were entered in SPSS (Statistical Package for the Social Sciences). The demographics were summarised using descriptive statistics, frequency and percentage. The use of inferential statistics and regression analysis hypothesized and measured the effect of library services on digital literacy. Statistical validity was judged at the level of 0.05.

IV. RESULTS

The findings of the statistical analysis which studied the correlation between the public libraries and digital literacy in rural Jamtara are given in this section. The report comprises demographic information; frequency of library visit, and the effects of accessing digital resources and training on the level of literacy.

Table 1 Age Wise Distribution of Respondents

| Age | Age | |
|----------------|-----------|---------|
| | Frequency | Percent |
| Below 18 years | 62 | 24.8 |
| 18 - 25 years | 73 | 29.2 |
| 26- 30 years | 81 | 32.4 |
| 31 - 35 years | 26 | 10.4 |
| Above 35 years | 8 | 3.2 |
| Total | 250 | 100 |

Age distribution is revealed in table above. The majority of the respondents were 26 - 30 years (32.4%), then 18 – 25 years (29.2%), then under 18 years (24.8%), 31 – 35 years (10.4%) and the rest were 35 years and more (3.2%).

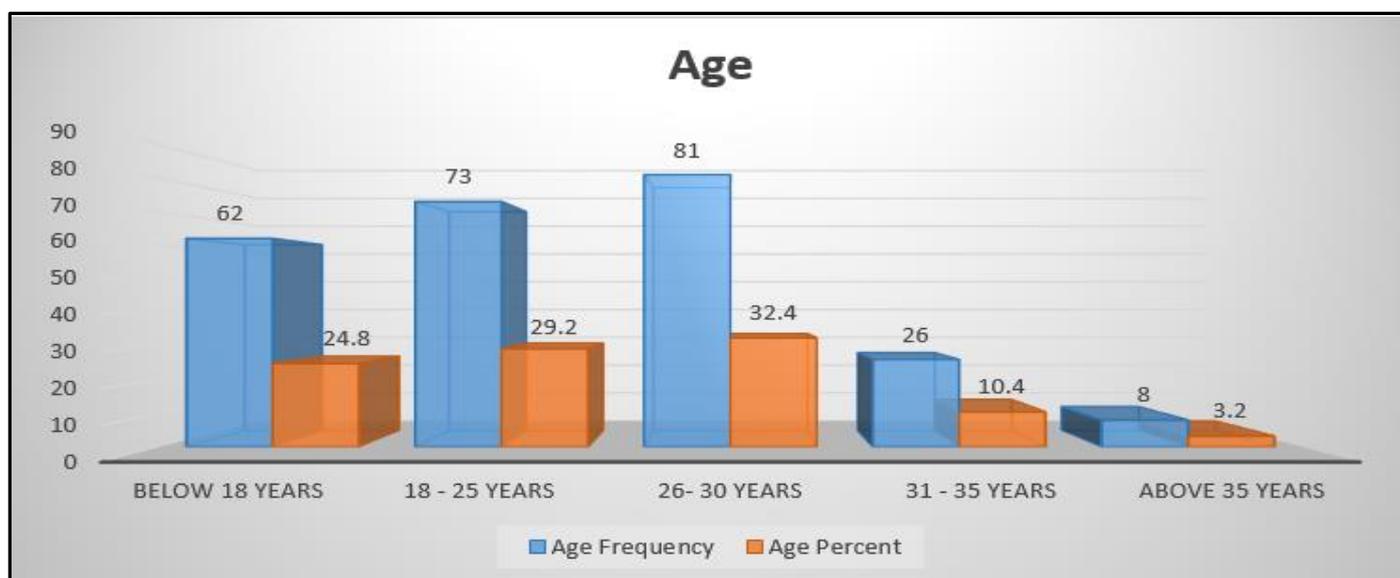


Fig 1 Graphical Representation of Age Wise Distribution of Respondents

Table 2 Gender Wise Distribution of Respondents

| Gender | | |
|--------|-----------|---------|
| | Frequency | Percent |
| Male | 155 | 62.0 |
| Female | 95 | 38.0 |
| Total | 250 | 100.0 |

Gender distribution is shown in the table above. 62 and 38 percent of respondents were male and female respectively.

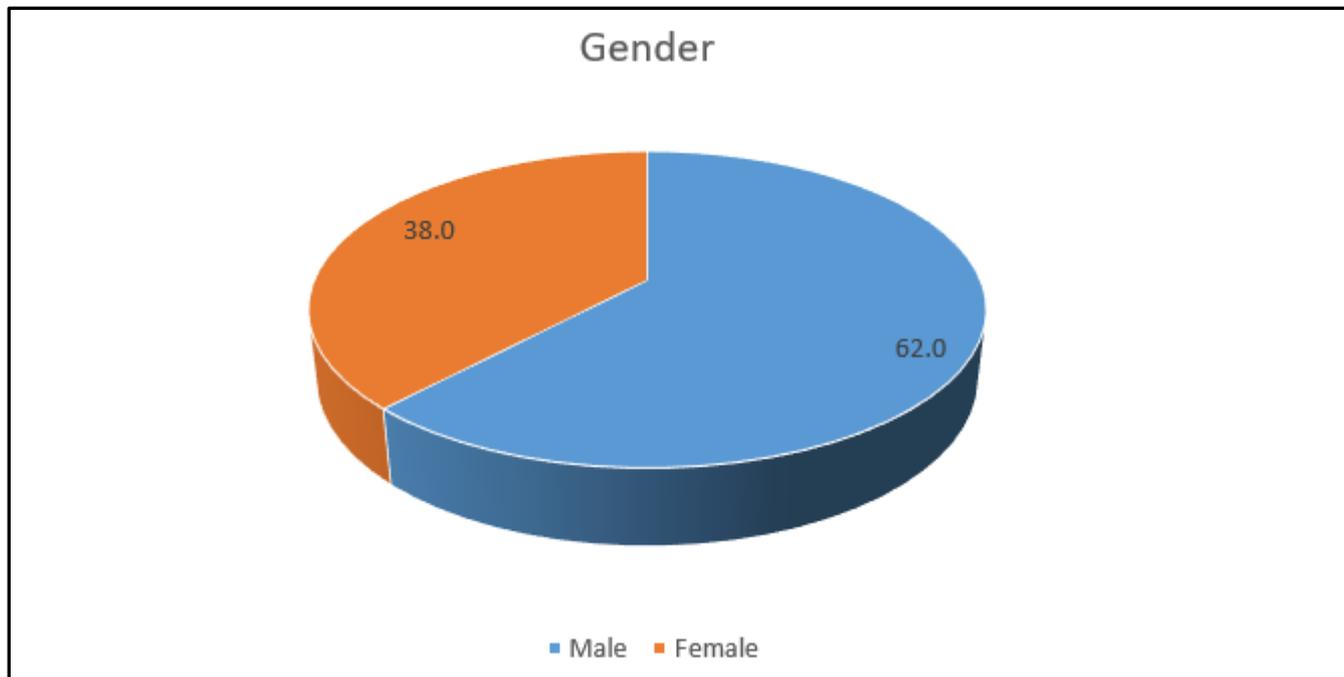


Fig 2 Graphical Representation of Gender Wise Distribution of Respondents

Table 3 Education Wise Distribution of Respondents

| Education | | |
|---------------|-----------|---------|
| | Frequency | Percent |
| Secondary | 85 | 34.0 |
| Graduate | 83 | 33.2 |
| Post graduate | 48 | 19.2 |
| Others | 34 | 13.6 |
| Total | 250 | 100.0 |

The table above depicts the educational levels. Those with secondary education (34%) were the largest group followed by graduates (33.2%). The postgraduates were 19.2 and the other categories were 13.6.

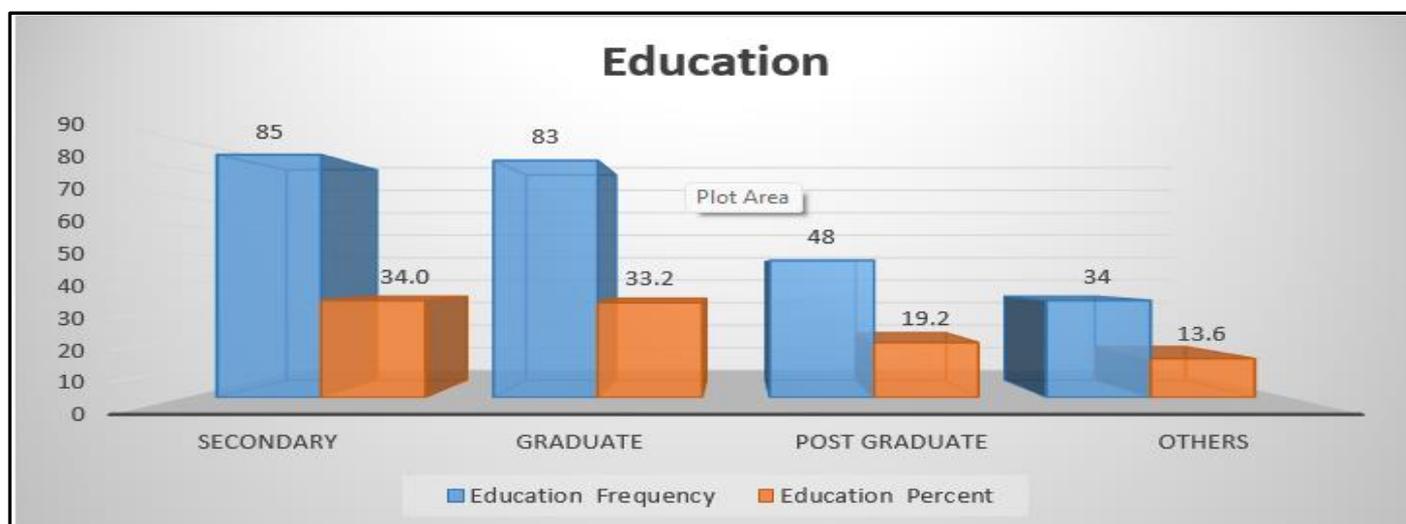


Fig 3 Graphical Representation of Education Wise Distribution of Respondents

Table 4 Frequency of Library Visits of respondents

| Frequency of Library Visits | | |
|-----------------------------|-----------|---------|
| | Frequency | Percent |
| Daily | 68 | 27.2 |
| Weekly | 115 | 46.0 |
| Monthly | 45 | 18.0 |
| Rarely | 22 | 8.8 |
| Total | 250 | 100.0 |

The table above documents the frequency in which respondents attend the library. Most of them 46 percent do so at least once a week, and the same number visit them daily. There are 18% monthly visits and only 8.8% rarely visits.

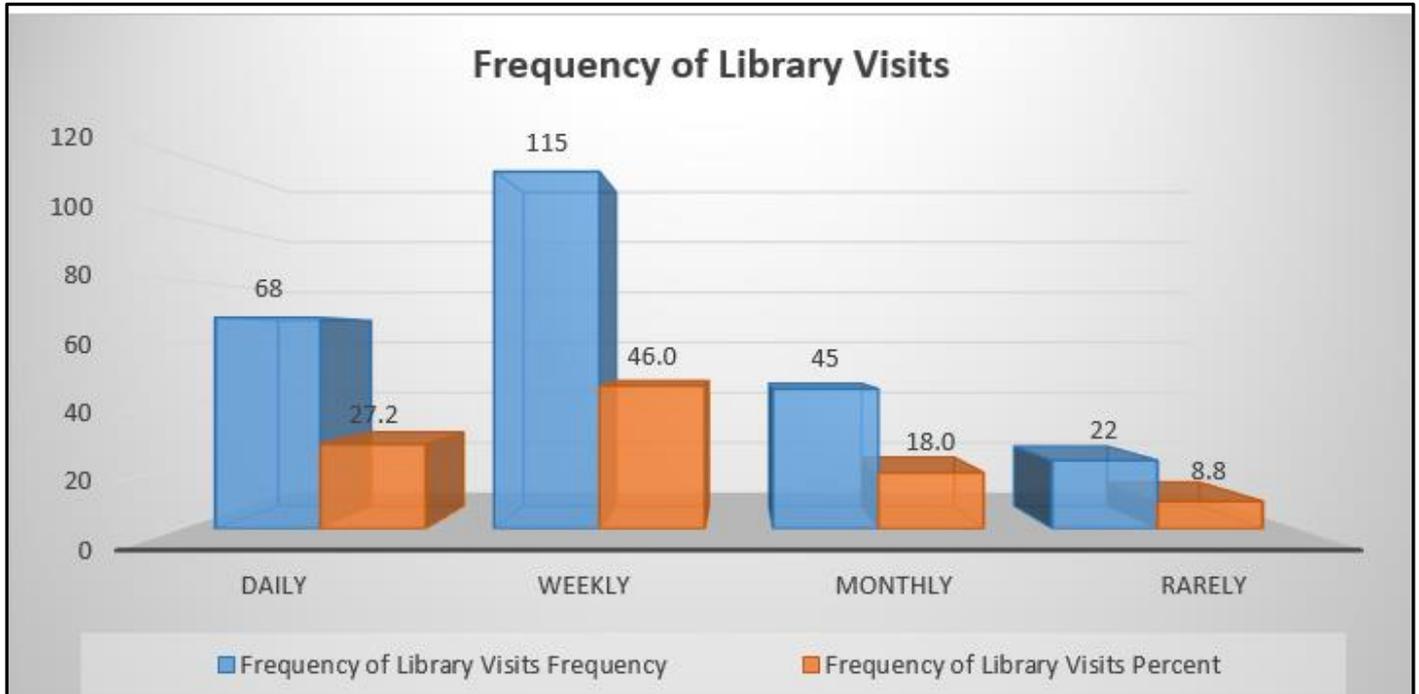


Fig 4 Graphical Representation of Frequency of Library Visits of Respondents

➤ Hypothesis Testing

• Hypothesis 1:

There is no significant impact of access to digital resources in public libraries on digital literacy.

Table 1 There is no Significant Impact of Access to Digital Resources in Public Libraries on Digital Literacy.

| Model Summary | | | | | | |
|--|---------------------------------------|-----------------------------|-------------------|----------------------------|---------|-------------------|
| Model | R | R Square | Adjusted R Square | Std. Error of the Estimate | | |
| 1 | .709 ^a | .502 | .500 | 3.54994 | | |
| a. Predictors: (Constant), Digital Resources in Public Libraries | | | | | | |
| ANOVA ^a | | | | | | |
| Model | Sum of Squares | df | Mean Square | F | Sig. | |
| 1 | Regression | 3156.262 | 1 | 3156.262 | 250.455 | .000 ^b |
| | Residual | 3125.322 | 248 | 12.602 | | |
| | Total | 6281.584 | 249 | | | |
| a. Dependent Variable: Digital Literacy | | | | | | |
| b. Predictors: (Constant), Digital Resources in Public Libraries | | | | | | |
| Coefficients ^a | | | | | | |
| Model | | Unstandardized Coefficients | | Standardized Coefficients | t | Sig. |
| | | B | Std. Error | Beta | | |
| 1 | (Constant) | 2.407 | .803 | | 2.998 | .003 |
| | Digital Resources in Public Libraries | .734 | .046 | .709 | 15.826 | .000 |
| a. Dependent Variable: Digital Literacy | | | | | | |

The table explored the effects of access to digital resources in the public libraries to digital literacy. The R value of the model is 0.709, which is strong and positive. The R-Squared of 0.502 is an indication that the access to digital resources explains 50.2 percent of the variation in digital literacy. The ANOVA is confirmative that the model is valid since the F-value stands at 250.455 and p-value at 0.000, which is much less than the 0.05 value, which indicates statistical significance between the two.

According to the coefficient analysis, unstandardized coefficient ($B = 0.734$) and the t -value (15.826) are significant at the 0.05 level, which means that more access to digital resources is correlated with a higher level of digital literacy, thus rejecting the null hypothesis.

- *Hypothesis 2:*
There is no significant impact of training and support programs on digital literacy.

Table 2 There is no Significant Impact of Training and Support Programs on Digital Literacy.

| Model Summary | | | | | | |
|--|-------------------------------|-----------------------------|-------------------|----------------------------|---------|-------------------|
| Model | R | R Square | Adjusted R Square | Std. Error of the Estimate | | |
| 1 | .676 ^a | .457 | .455 | 3.70773 | | |
| a. Predictors: (Constant), Training and Support Programs | | | | | | |
| ANOVA ^a | | | | | | |
| Model | Sum of Squares | df | Mean Square | F | Sig. | |
| 1 | Regression | 2872.269 | 1 | 2872.269 | 208.934 | .000 ^b |
| | Residual | 3409.315 | 248 | 13.747 | | |
| | Total | 6281.584 | 249 | | | |
| a. Dependent Variable: Digital Literacy | | | | | | |
| b. Predictors: (Constant), Training and Support Programs | | | | | | |
| Coefficients ^a | | | | | | |
| Model | | Unstandardized Coefficients | | Standardized Coefficients | t | Sig. |
| | | B | Std. Error | Beta | | |
| 1 | (Constant) | 4.821 | .717 | | 6.727 | .000 |
| | Training and Support Programs | .624 | .043 | .676 | 14.455 | .000 |
| a. Dependent Variable: Digital Literacy | | | | | | |

The table measures the effects of training and support programs on digital literacy. The summary of the model demonstrates the value of R, which is 0.676, which indicates a high positive correlation. The value of R-squared stands at 0.457, which means that 45.7 percent of the digital literacy variance can be explained by the presence of training and support programs in the libraries. The results with the ANOVA prove the model significance with an F-value of 208.934 and a p-value of 0.000 which is significantly less than 0.05 level of significance. The association is validated in the coefficient table where both the unstandardized coefficient ($B = 0.624$) and t -value ($t = 14.455$) are significant at 0.05 level. This implies that the quality and frequency of training and support programs will yield better digital literacy and therefore a null hypothesis that there are no significant impact of the support and training programs is rejected.

V. CONCLUSION

This paper has discussed the importance of the involvement of the public libraries in the Digital literacy development of rural people in Jamtara district, Jharkhand. The results unequivocally demonstrate that not only are the public libraries relevant in storing knowledge traditionally but also they are also critical agents in digital inclusion. Regression analysis shows strong positive relationship between access to digital resources and digital literacy which explicates 50.2 per cent of the variance

using digital infrastructure of the library. Digital literacy is explained by training and support programs, aided by which it is possible to determine a significant contribution (45.7%). The findings reveal that libraries that are well equipped with the necessary ICT infrastructure and have well trained personnel to bring well structured digital training can help in reducing the digital divide in rural communities. The challenges that have been identified in the report include poor infrastructure, inadequate professional training of the staff, low budgets, and lack of awareness by the rural dwellers about the library digital services. Hence, enhancing library services, allocating more resources by the government and local communities, and holding regular ICT skills training sessions are necessary measures to turn rural government-owned public libraries into active digital educational institutions. To conclude, rural residents of Jamtara have a great opportunity of being empowered through the activities of public libraries which will enhance digital literacy levels, improve the desire to be involved in e-governance, and will lead to the overall objectives of rural digital transformation and inclusive development of Jharkhand state.

SUGGESTIONS

The rural community libraries should acquire good internet connection, up to date computers, printers and other ICT devices so that all members of the community can access digital materials easily.

Libraries have to organize regular training, workshops, and awareness campaigns based on simple computer operations, using the Internet, e-governance services, and Internet safety.

It is necessary to continuously educate librarians and library assistants on the use of ICT and digital pedagogy to be able to assist users and coordinate digital services.

Local and state governments should also allocate enough funds and resources to improve the rural libraries and maintain digital inclusion programs.

Partnering with NGOs, educational institutions, and technology companies can expand the scale and efficiency of the digital literacy programs in rural settings.

Awareness campaigns are to be developed to inform the rural population regarding the resources and training opportunities provided by the libraries in the form of digital resources.

Libraries need to focus on crafting specific projects to motivate women, Scheduled Tribes, and marginalized economically challenged groups, which are usually locked out of digital access.

To evaluate the effectiveness of library-based digital programs, it will be reasonable to introduce a system of regular evaluation that will assist in identifying areas of weakness and aid in the ongoing process of improvement.

As a way of making the programs relevant and sustainable, promotion of community participation in planning and carrying out library activities can be helpful.

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