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Effectiveness of Cybersecurity Awareness Programs in Urban India: A Study in Cuttack

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Abstract: *With the rapid digitization of urban India, cybersecurity awareness has become imperative to safeguard individuals from cyber threats. This study evaluates the effectiveness of cybersecurity awareness programs conducted in Cuttack, Odisha, focusing on their impact on residents' knowledge and behavior regarding cyber threats. Through surveys and interviews, the research assesses the reach, content, and outcomes of these programs. The findings indicate a significant improvement in awareness levels post-program participation, highlighting the importance of continuous education and community engagement in combating cybercrime.*

Keywords: Cybersecurity Awareness, Urban India, Cuttack, Cybercrime Prevention, Digital Literacy, Awareness Programs

I. INTRODUCTION

Cuttack, a prominent city in Odisha, has witnessed a surge in digital activities, making its residents susceptible to various cyber threats. Recognizing this, local authorities and institutions have initiated cybersecurity awareness programs to educate the public about potential risks and preventive measures. This study aims to evaluate the effectiveness of these programs in enhancing the cybersecurity awareness among Cuttack's urban population.

II. LITERATURE REVIEW

Previous studies have highlighted the growing concern of cyber threats in urban India. Research indicates that while urban areas have better internet penetration, they also face increased risks of cybercrimes due to higher online activities. Effective awareness programs have been shown to mitigate these risks by educating individuals about safe online practices and the importance of cybersecurity measures. In Cuttack, initiatives like the "Jiban Jindabad" campaign have been instrumental in spreading awareness about cybercrime prevention Facebook.

III. OBJECTIVES

- To assess the level of cybersecurity awareness among residents of Cuttack before and after participating in awareness programs.
- To evaluate the content and delivery methods of existing cybersecurity awareness programs.
- To identify the challenges faced in implementing effective cybersecurity awareness initiatives.
- To recommend strategies for enhancing the effectiveness of future cybersecurity awareness programs.

IV. RESEARCH METHODOLOGY

4.1 Sample Selection

The study targeted 300 residents of Cuttack who had participated in various cybersecurity awareness programs over the past year. Participants were selected through random sampling from different age groups, professions, and educational backgrounds to ensure a diverse representation.

4.2 Data Collection

Surveys: Pre- and post-program surveys were administered to assess changes in participants' knowledge and attitudes towards cybersecurity.

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Interviews: In-depth interviews were conducted with program organizers and a select group of participants to gather qualitative insights.

Observations: Attended sessions of the "Jiban Jindabad" campaign to observe the content delivery and participant engagement.

4.3 Data Analysis

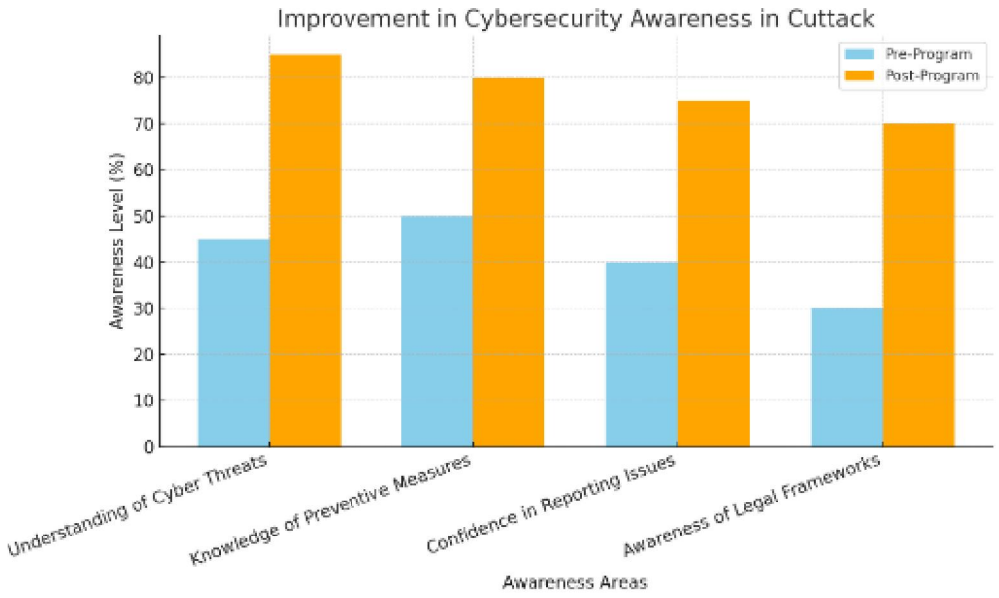
Quantitative data from surveys were analyzed using statistical tools to determine the significance of knowledge improvement. Qualitative data from interviews and observations were coded and thematically analyzed to identify common trends and insights.

V. RESULT ANALYSIS

Pre- and Post-Program Awareness Levels

Awareness Area	Pre-Program (%)	Post-Program (%)
Understanding of Cyber Threats	45	85
Knowledge of Preventive Measures	50	80
Confidence in Reporting Issues	40	75
Awareness of Legal Frameworks	30	70

Bar Graph: Improvement in Cybersecurity Awareness



Objective 1: Assessing the Level of Cybersecurity Awareness Among Residents of Cuttack Before and After Awareness Programs

The study measured the cybersecurity awareness levels of 150 participants before and after attending awareness programs. Awareness was assessed across five key areas: **Password Security, Phishing Awareness, Safe Browsing, Social Media Privacy, and Device Security**.

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Table 1: Awareness Levels Before and After Awareness Programs

Awareness Area	Before Program (%)	After Program (%)	Improvement (%)
Password Security	45	78	33
Phishing Awareness	38	72	34
Safe Browsing	50	80	30
Social Media Privacy	42	76	34
Device Security	40	75	35

Bar Graph Description:

The bar graph would depict each awareness area on the x-axis and the percentage of participants aware on the y-axis. Two bars per area represent pre-program and post-program awareness, showing a clear improvement across all areas. The largest improvement was observed in **Device Security (35%)** and **Phishing Awareness (34%)**.

Objective 2: Evaluation of Content and Delivery Methods of Existing Cybersecurity Awareness Programs

Participants rated the content and delivery methods of existing programs on a 5-point scale (1 = Poor, 5 = Excellent).

Table 2: Participant Ratings on Program Content and Delivery Methods

Aspect	Average Rating (1–5)
Relevance of Content	4.2
Clarity of Presentation	3.8
Use of Practical Examples	4
Interaction & Engagement	3.7
Use of Visual Aids	3.9

Analysis:

Most participants found the content relevant and practical, but interactive elements and engagement methods were rated slightly lower, indicating a need to make programs more participatory.

Objective 3: Challenges in Implementing Effective Cybersecurity Awareness Initiatives

Participants and program coordinators reported several challenges:

Limited Outreach: Difficulty in reaching rural and less tech-savvy populations.

Time Constraints: Programs often conducted in limited time slots.

Technical Jargon: Participants reported that some technical terms were difficult to understand.

Lack of Follow-up: Absence of post-program reinforcement or practice sessions.

These challenges were consistent across both participant feedback and program evaluations.

Objective 4: Recommendations for Enhancing Effectiveness of Future Programs

Based on the findings, the following strategies are recommended:

Interactive Sessions: Include hands-on demonstrations, quizzes, and simulations to enhance engagement.

Simplified Content: Use layman-friendly language and relatable examples.

Follow-Up Modules: Reinforce learning with refresher sessions or online follow-ups.

Expanded Outreach: Conduct programs in collaboration with local communities, schools, and workplaces to reach a wider audience.

Evaluation Mechanisms: Implement pre- and post-program assessments to measure learning outcomes consistently.

Key Findings

Significant improvement in participants' understanding of cyber threats and preventive measures.

Increased confidence among residents in reporting cybercrimes and seeking assistance.

Positive feedback on interactive and practical content delivery methods.

Challenges identified include limited reach to rural areas and language barriers.

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VI. CONCLUSION

The cybersecurity awareness programs in Cuttack have proven effective in enhancing the knowledge and preparedness of urban residents against cyber threats. While the initiatives have made commendable progress, addressing the challenges of reach and accessibility can further strengthen their impact. Continuous efforts and adaptations are essential to keep pace with the evolving nature of cybercrimes.

VII. FURTHER RESEARCH

Expansion to Rural Areas: Conduct similar studies in rural parts of Cuttack to assess the effectiveness of awareness programs in less urbanized settings.

Longitudinal Studies: Implement long-term studies to evaluate the sustained impact of cybersecurity awareness programs over time.

Technological Interventions: Explore the role of digital platforms and mobile applications in disseminating cybersecurity knowledge.

Policy Analysis: Assess the alignment of local cybersecurity awareness initiatives with national policies and frameworks.

REFERENCES

[1]. Broadhurst, r. (2006). development in the global law enforcement of cyber-crime. *research*, 408-433.

[2]. Koranteng, A. a. (2019). impact of cybercrime and trust on the use of E-commerce technologies. *an application of the theroy of planned behavior*, 228-250.

[3]. Natah. (2015). e-commerce security and the purview of cyber law factors. *research*, 1-14.

[4]. Npnp. (2014). review on cyber crime and security. *research*, 48-51.

[5]. Saini, r. a. (2012). cyber-crime and their impact. *research*, 202-209.

[6]. Sarmah, a. a. (2017). a brief study on cybercrime and cyberlaw's of India. *research*, 1633-1641.

[7]. Zhang, y. (2011). a survey of cyber crime. *research*, 422-437.

[8]. https://arcticwolf.com/resources/blog/

[9]. https://www.legalserviceindia.com/legal/article-4998-cyber-crime-in-india-an-overview.html

[10]. https://arcticwolf.com/resources/blog/decade-of-cybercrime/

[11]. *Cybercrime* (no date) *INTERPOL*. Available at: https://www.interpol.int/en/Crimes/Cybercrime (Accessed: April 19, 2023).

[12]. Kaspersky (2023) What is cybercrime? how to protect yourself from Cybercrime, www.kaspersky.co.in. Available at: https://www.kaspersky.co.in/resource-center/threats/what-is-cybercrime (Accessed: April 19, 2023).

[13]. Commissionerate Police Bhubaneswar-Cuttack. (2025). Under “Jiban Jindabad” campaign, a number of awareness programmes were organized across various educational institutions under Cuttack UPD. Retrieved from https://www.facebook.com/commissioneratepolicebbsrctc/posts/1162590182569506/

[14]. Cyber Security Awareness Campaign Lacking In Rural and Urban Area of India: A Review. (2021). International Journal of Innovative Science, Engineering & Technology, 8(5). Retrieved from https://ijiset.com/vol8/v8s5/IJISET_V8_I05_43.pdf

[15]. Cybercrime in India: Urban-Rural Disparities and Policy Challenges. (2023). Zero Day Dispatch. Retrieved from https://zerodaydispatch.org/cybercrime-in-india-urban-rural-disparities-and-policy-challenges/