Awareness About Cyber Crime to Indian Youth: A Literature Review Using Bibliometric Analysis

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1. Introduction

In the last ten years, internet usage in India has surged, increasing from 12.6 percent nationwide in 2012 to 48.7 percent at start of 2023, as reported by Data Reportal. In absolute numbers, this translates to a substantial 692 million people, securing India's position as the second-highest country in terms of active internet users globally. The growth in internet penetration has been consistent, with urban areas displaying higher connectivity compared to rural regions.

The growth of internet use in India over the past two decades has been nothing short of remarkable. By October 2023, there were 5.3 billion internet users globally, representing 65.7% of the world's population. Of this total, 4.95 billion, or 61.4%, were active on social media. And in India, a total of 1.10 billion cellular mobile connections were active in early 2023, with this figure equivalent to 77 percent of the total population.

The easy availability of smartphones and other mobile devices has played a big role in the increasing use of the internet in India. Many people now have access to the internet through their smart-phones, even in areas where traditional broadband connections are not available.

Furthermore, the surge in internet usage in India has profoundly influenced the region's economies. Several countries now heavily depend on e-commerce and various digital services. This expansion of the digital economy has not only opened up new job opportunities but has also stimulated innovation in many industries.

Even though internet use is growing in India, there are still many challenges to be addressed in terms of internet access and digital literacy in many parts of India. The digital divide between urban and rural areas remains a significant issue, and many people still lack the skills and resources needed to make the most of the opportunities offered by the internet.

2. Bibliometric analysis

This literature review aims to provide insights into the awareness of cybercrime among Indian youth using bibliometric analysis.

Bibliometric analysis is a useful tool to examine the existing literature on a particular topic. In this case, the topic is the awareness of students about cybercrime.

To begin, a literature search can be conducted using various academic databases, such as Google Scholar, Web of Science, and Scopus. The search terms could include "cybercrime," "awareness," "students," and related keywords. The search should be limited to a certain time frame, such as the last 10 years, to ensure that the results are current and relevant.

Once the search results are obtained, bibliometric analysis can be applied to the literature to identify trends and patterns. This could involve analyzing the number of publications over time, the most frequently cited authors and publications, and the most commonly used keywords.

It involves analyzing and mapping the characteristics of published articles in a particular field, such as the keywords, authors, journals, and citation patterns.

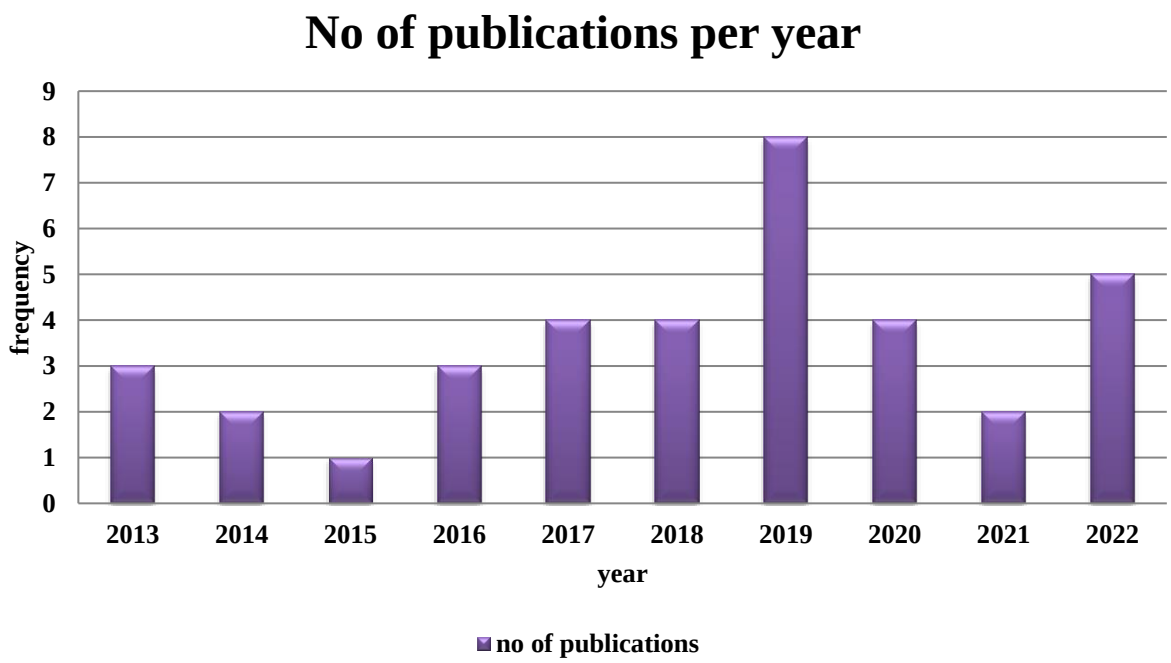
3. Methodology

The research was performed by exploring multiple national and global databases to locate articles that were published from 2013 to 2022. The search was conducted using specific keywords, such as "cybercrime," "Indian youth," and "awareness." After conducting the search, the study's authors reviewed the results and used bibliometric analysis to assess them further. Bibliometric analysis is a method that involves studying relationships between different publications, including co-authorship, co-citation, and bibliographic coupling analysis. By utilizing these techniques, the researchers aimed to gain a deeper understanding of the articles' content, identify any recurring themes or trends, and draw meaningful conclusions from their findings.

4. Results

•The study identified a total of 36 articles related to the awareness of cybercrime among Indian youth. The most productive year was 2019, with 8 articles published, and the majority of the articles were published in journals related to computer science and engineering.

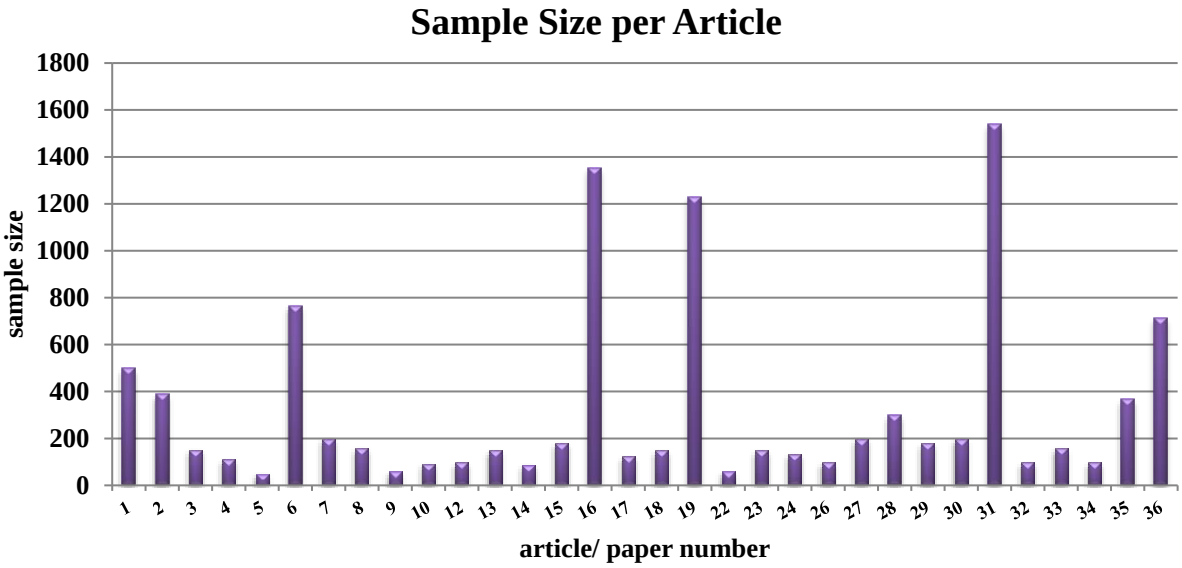
Year	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	Total
No of publications	3	2	1	3	4	4	8	4	2	5	36



•The study's authors also analyzed the country-wise distribution of publications related to cybercrime and Indian youth awareness. They found that out of the 36 publications, 26 were from India, indicating a strong interest in this topic within the country. The remaining articles were published in countries such as the Malaysia, Kenya, Nigeria and so on. However, a closer examination of the data also revealed some interesting trends.

Country	No of publication
India	26
Kenya	1
Canada	1
Malaysia	2
Turkey	1
Nigeria	1
ISRAEL	1
Saudi Arabia	1
Finland	1
Sri Lanka	1
Total	**36**

- The authors of the study found that all 36 publications that they analyzed used different sample sizes for their surveys, one of the studies were population-based, while others had smaller sample sizes. On average, each study surveyed 300 respondents. This variation in sample sizes can make it challenging to compare findings across different studies. It may also affect the generalizability of the results. Therefore, the authors suggested that more standardization is needed in research methods to improve the comparability of results and increase the reliability of findings. Despite this limitation, the study's findings provide valuable insights into the current state of research related to cybercrime and Indian youth awareness, and they suggest directions for future research to address this critical societal issue.
- Out of the 36 papers analyzed in the study, three papers did not mention the statistical tools used or the sample size taken, leaving uncertainty around their methodological approach.



- Out of the 36 papers analyzed in the study, 30 papers mentioned their sampling methods. The majority of these papers used simple and stratified random sampling, while only a few papers used purposive and convenience sampling methods. This suggests that researchers studying cybercrime awareness among Indian youth tend to rely on random sampling techniques to ensure representative samples for their studies.
- Once sampled, the majority of the papers analyzed in the study used a questionnaire-based survey method, either designed by the researchers themselves or with the assistance of experts, as per the target audience. Four of the papers used the Cyber Crime Awareness Scale (CCAS-RS) developed by Dr. S. Rajasekar. This suggests that survey research is a popular method for studying cybercrime

awareness among Indian youth, with a preference for designing and administering one's own survey instruments.

- Out of the 32 papers that reported their statistical analysis methods, 29 used frequency tables and graphs to describe their responses, while six papers used correlation and regression analyses. Three papers utilized independent t-tests and ANOVA tables to test for differences in means, and one paper used non-parametric tests such as the Mann-Whitney U test. Interestingly, this particular paper was authored by a Canadian researcher.
- Out of the 36 articles analyzed by the study's authors, six papers provided information about their response rates. Interestingly, all the sample surveys had a response rate of over 75%, indicating a high level of engagement from participants. However, one population-based survey article had a lower response rate of 40%, which may limit the generalizability of the results. These response rate findings suggest that researchers need to pay more attention to their survey methods and implementation to improve participation rates and enhance the reliability of their findings.
- Four of the publications analyzed in the study used the Cyber Crime Awareness Scale (CCAS-RS) developed by Dr. S. Rajasekar in 2013, suggesting that this tool has gained popularity among researchers studying cybercrime awareness among Indian youth.

5. Conclusion

The results of the bibliometric analysis indicate that there is a growing interest in cybercrime among Indian researchers, with a focus on cybercrime prevention, awareness, and education. However, there is still a need for more research on the specific issues related to cybercrime awareness among Indian youth, including their knowledge, attitudes, and behaviors. The findings of this study can be used to guide future research on cybercrime awareness among Indian youth and to develop effective interventions to address the issue.

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