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**INTERNATIONAL JOURNAL OF ADVANCED LEGAL RESEARCH**

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**SURVEY ON THE IMPACT OF EMERGING TECHNOLOGIES ON  
INDIVIDUAL'S RIGHT TO PRIVACY IN INDIA'S DIGITAL AGE**

- Fatima Faridi, Mariam Nizami & Sameera Khan<sup>1</sup>

**ABSTRACT**

The emergence of new technologies, including artificial intelligence, biometric surveillance, and big data analytics, has significantly reshaped the landscape of privacy rights in India. This study investigates the impact of these technologies on individuals' right to privacy, analysing public perceptions, awareness levels, and concerns regarding data security in the digital age. The research employs a **survey-based methodology**, collecting responses through an online questionnaire structured around **Likert-scale questions**, with data analysed using **SPSS**.

The study aims to evaluate the adequacy of existing **legal frameworks**, such as the **Information Technology Act, 2000, and the Digital Personal Data Protection Act, 2023**, in addressing contemporary privacy challenges. It further explores public trust in organizations handling personal data, perceptions of government surveillance, and the demand for stronger regulatory safeguards. Drawing upon **landmark judicial precedents**, including *Justice K.S. Puttaswamy (Retd.) v. Union of India*<sup>2</sup>, the research highlights key policy implications, emphasizing the need for **stricter enforcement mechanisms, increased transparency, and public awareness initiatives**. The findings contribute to the broader discourse on privacy rights, offering insights for legal scholars, policymakers, and technology regulators navigating the complexities of data protection in India's evolving digital ecosystem.

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<sup>1</sup> Students at Amity University, Noida

<sup>2</sup>(2019) 1 SCC 1

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**KEYWORDS-** Right to Privacy, Emerging Technologies, Digital Age, Data Protection, Public Perception.

## **INTRODUCTION**

In India's digital era, the rapid advancement of emerging technologies has revolutionized how individuals engage with information, services, and each other. However, alongside these advancements comes a critical concern: the impact of emerging technologies on individuals' right to privacy.

This study delves into the intricate relationship between emerging technologies and privacy rights within the Indian context. From the widespread adoption of social media platforms to the increasing use of biometrics and surveillance systems, technological innovations have redefined the boundaries of personal privacy. Through this examination, we aim to analyze the implications of emerging technologies on privacy rights across various sectors, including healthcare, finance, governance, and beyond. Moreover, we seek to assess evolving regulatory frameworks, societal attitudes, and ethical considerations surrounding data privacy and digital surveillance.

By shedding light on these dynamics, this survey study endeavors to inform policymakers, technologists, and citizens about the challenges and opportunities inherent in India's digital landscape. It underscores the importance of fostering a balance between technological innovation and individual privacy rights, advocating for transparent governance and robust data protection measures in the digital age.

## **AIM OF THE STUDY**

The primary objective of this study is to comprehensively investigate the multifaceted impact of emerging technologies on individuals' fundamental right to privacy within the context of India's technological landscape. We aim to delve into critical arenas such as ubiquitous connectivity, social media, artificial intelligence (AI), algorithmic decision-making, biometrics, facial recognition, identity protection, financial technology (Fintech), data security, government surveillance, digital governance, digital literacy, awareness, empowerment, regulatory frameworks, and ethical considerations.

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Our study seeks to meticulously examine the challenges posed by these technological advancements, including concerns regarding data security, consent, algorithmic bias, discriminatory practices, opaque decision-making processes, biometric privacy, financial data protection, mass surveillance, data retention, and the potential infringement on individual privacy rights. By exploring these issues in depth, we aim to propose strategies and solutions for effectively balancing technological innovation with the protection of privacy rights.

Furthermore, we emphasize the importance of enhancing digital literacy and promoting awareness among the public about privacy risks, data protection measures, and individual rights in the digital sphere. We advocate for the development of robust regulatory frameworks encompassing stricter data protection laws, ethical guidelines for technology development and use, and mechanisms for ensuring accountability and transparency.

Our ultimate goal is to advocate for a multi-stakeholder approach, involving policymakers, technologists, civil society, and citizens, to collaboratively navigate the dynamic challenges of the digital age while upholding and safeguarding individuals' fundamental right to privacy in India.

## **RESEARCH METHODOLOGY**

### **1. Research Design**

This study employed a descriptive research design to analyse public perceptions and awareness regarding the right to privacy. The primary data was collected using an online survey, which allowed for efficient and widespread participant outreach.

### **2. Survey Instrument**

The data collection tool was a structured questionnaire designed on Google Forms. The questionnaire predominantly consisted of **Likert Scale questions** with response options ranging from "Strongly Agree" to "Strongly Disagree," enabling the measurement of attitudes and opinions on a continuum.

### **3. Sampling and Respondents**

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- **Sample Size:** The survey received a total of **106 valid responses**.
- **Sampling Method:** Convenience sampling was used to reach participants, leveraging digital platforms for distribution.
- **Demographics:** The survey targeted a diverse population to gather a broad understanding of perspectives, though specific demographic details (e.g., age, gender, occupation) were not emphasized for this analysis.

#### 4. Data Collection Process

The survey was conducted entirely online using **Google Forms**. Respondents were provided with a brief introduction explaining the purpose of the research, ensuring their consent and maintaining anonymity throughout the process.

#### 5. Data Analysis Tools and Techniques

- The collected data was analysed using **SPSS (Statistical Package for the Social Sciences)** to ensure accuracy and reliability.
- **Descriptive Statistics:** Percentages were calculated to summarize respondent opinions.
- **Visual Representation:** Pie charts and other graphical tools were employed to present the data in a clear and comprehensible manner.

#### 6. Ethical Considerations

- **Voluntary Participation:** Participation was entirely voluntary, with respondents given the choice to opt-out at any time.
- **Confidentiality:** Responses were anonymized to protect the privacy of the participants.
- **Transparency:** The purpose and scope of the study were clearly explained to the respondents.

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## PROCEDURE

For our survey on the right to privacy on the topic of "The Impact of Emerging Technologies on Individuals' Right to Privacy in the Digital Age", we collectively crafted a comprehensive survey questionnaire covering various aspects of privacy rights. Leveraging the Google Forms platform, we structured the survey to include questions addressing awareness, concerns, opinions, and preferences regarding privacy. Employing a multi-channel approach, we circulated the survey link via platforms like WhatsApp, social media, email, and direct messaging to reach a diverse audience. Over a specified period, we collected responses from 106 participants spanning different age groups, genders, and geographical locations. Throughout the data collection process, we monitored response rates and engaged with respondents to encourage participation and ensure data quality. Upon completion, we exported the survey responses to a spreadsheet format for analysis, where we utilized descriptive and inferential statistical methods to identify patterns, trends, and relationships within the data. Ethical considerations were prioritized, ensuring participant privacy, confidentiality, and informed consent. Utilizing different question types, including multiple-choice, open-ended, and Likert scale questions, we aimed to capture diverse perspectives and insights. Finally, we concluded the survey process by summarizing the key findings and insights derived from the survey analysis, reflecting on the strengths and weaknesses of the survey methodology, and suggesting areas for future research or improvement. Overall, this systematic approach allowed us to generate meaningful insights for my survey on the right to privacy in the Indian Constitution.

## RESULT AND INTERPRETATION

### 1. Awareness of Right to Privacy:

The survey highlights that **83.1% of respondents** believe they are aware of their right to privacy, reflecting a promising level of consciousness. However, **13.2% remain neutral**, suggesting gaps in clarity or understanding. While this indicates progress, prior studies emphasize that awareness alone does not always translate into proactive privacy protection behavior. The **Puttaswamy v. Union of India (2017)** judgment established privacy as a **fundamental right**, yet public understanding of specific legal protections under the Personal Data Protection Bill (PDPB) and Digital Personal Data Protection Act, 2023 (DPDPA)

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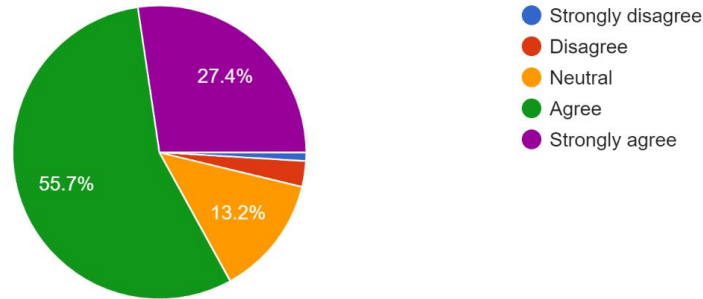
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appears

limited.

I am aware of my right to privacy as enshrined in the Indian Constitution.

106 responses

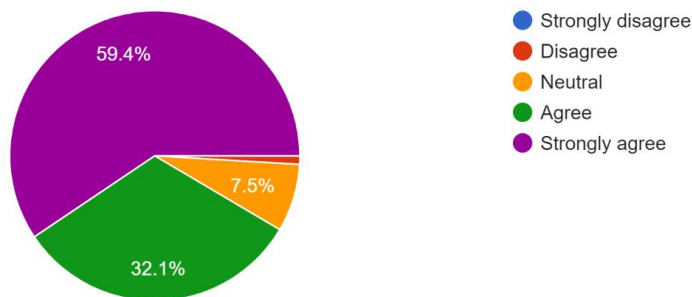


## 2. Concerns about Protection of Personal Data Online:

An overwhelming **91.5% of respondents** expressed concern about their personal data security, confirming growing anxieties in the digital age. This aligns with global trends, where increasing incidents of **data breaches, unauthorized surveillance, and AI-driven profiling** have intensified fears about misuse. The Indian IT Act, 2000, and the **DPDPA, 2023**, address some privacy concerns, yet respondents’ skepticism suggests **perceived loopholes or insufficient enforcement mechanisms**.

I am concerned about the protection of my personal data online.

106 responses



## 3. Effectiveness of Indian Privacy Laws:

A significant **33% of respondents disagree** that Indian privacy laws are effective, while **39.6% remain neutral**, indicating either uncertainty or lack of knowledge. This reflects a **common critique** of Indian data protection laws—while **legal frameworks exist**,

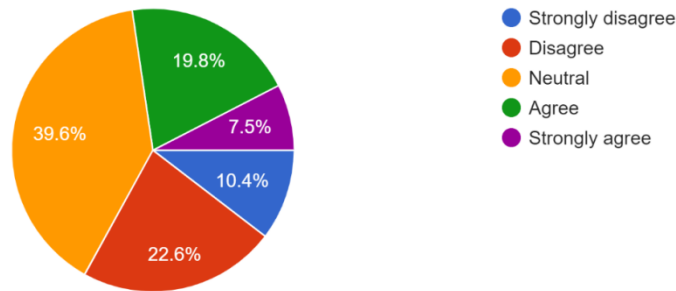
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**enforcement remains weak.** Comparatively, the **GDPR (General Data Protection Regulation)** in the EU sets a stricter standard for privacy enforcement, which respondents may find lacking in Indian regulations. This highlights the need for **greater transparency, stricter penalties, and improved implementation of privacy laws** in India.

I believe that current Indian privacy laws are effective in safeguarding individuals' privacy rights in the digital world.

106 responses



#### 4. Comfort with Sharing Personal Information on Social Media:

Despite privacy concerns, **65.1% of respondents feel comfortable sharing personal data online**, raising questions about privacy paradox behaviour. Studies indicate that while people **express concern about privacy, they often trade it for convenience** on platforms like Instagram, WhatsApp, and Facebook.

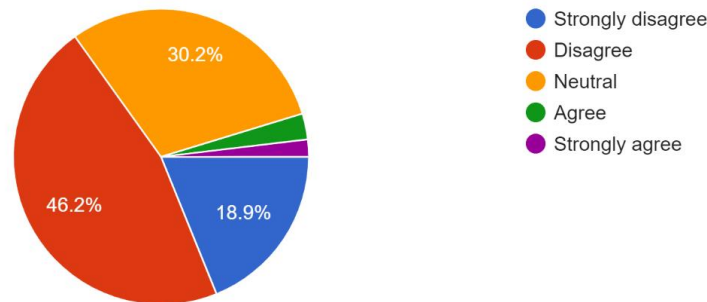
- This highlights the **need for user education on data privacy risks.**
- Stricter **opt-in consent mechanisms and clearer data-sharing policies** should be mandated for tech companies operating in India.

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I am comfortable sharing personal information on social media platforms.

106 responses



### 5. Trust in Organizations to Handle Personal Data Responsibly:

The results suggest a **significant lack of trust** in both corporations and government agencies:

- **50% of respondents distrust organizations** with their personal data.
- **83% fear government misuse of data.**

This distrust aligns with concerns over **Aadhaar data leaks, Pegasus spyware allegations, and the growing use of AI surveillance**. Transparency in corporate and government data-handling practices is essential to **build public confidence**. Countries like **the UK and Germany have independent watchdog agencies**, such as the Information Commissioner's Office (ICO), ensuring accountability. India may need a **stronger, independent regulatory body** for data privacy enforcement.

### 6. Belief in Right to Access and Control Data:

- The overwhelming majority (**84%**) support the idea of individuals having the right to access and control the data collected about them.

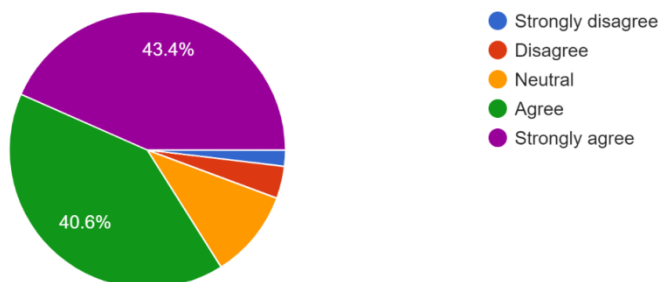
- This reflects a strong endorsement of data sovereignty and user empowerment in the context of data privacy.

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I believe that individuals should have the right to access and control the data that companies collect about them.

106 responses



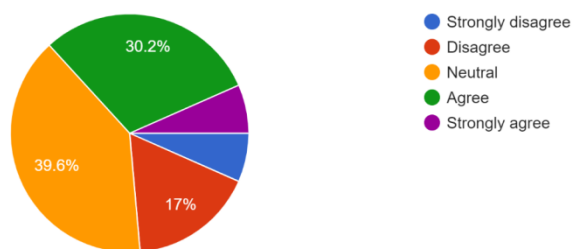
### 7. Awareness of Data Privacy Rights under Indian Laws:

- The responses highlight a considerable gap in awareness regarding data privacy rights under Indian laws.

- A significant proportion (**39.6%**) feel inadequately informed about their rights and options concerning data privacy and protection, indicating a need for increased education and awareness initiatives.

I feel adequately informed about my rights and options concerning data privacy and protection under Indian laws.

106 responses



### 8. Concerns about Potential Misuse of Personal Data by Government Agencies:

- The majority (**83%**) express concerns about the potential misuse of their personal data by government agencies or surveillance programs.

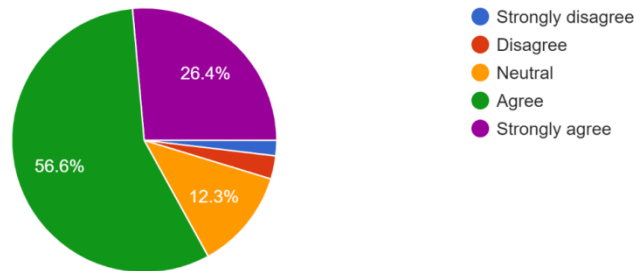
- This underscores apprehensions regarding government surveillance and the need for robust privacy safeguards and oversight mechanisms.

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I am concerned about the potential misuse of my personal data by government agencies or surveillance programs.

106 responses

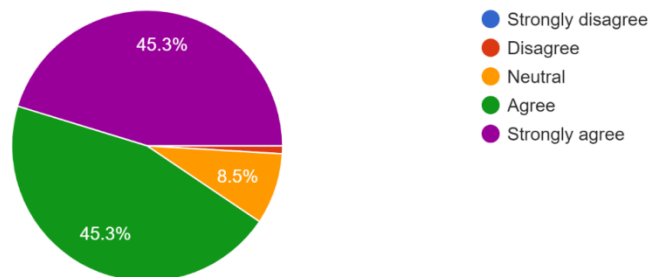


### 9. Willingness to Take Measures to Protect Online Privacy:

- A vast majority (**90.6%**) are willing to take measures to protect their online privacy, demonstrating a proactive attitude towards safeguarding personal data.
- This indicates a recognition of individual responsibility in mitigating privacy risks in the digital realm.

I am willing to take measures (e.g., using privacy settings, installing encryption tools) to protect my online privacy.

106 responses



### 10. Support for Stricter Penalties for Data Privacy Law Violations:

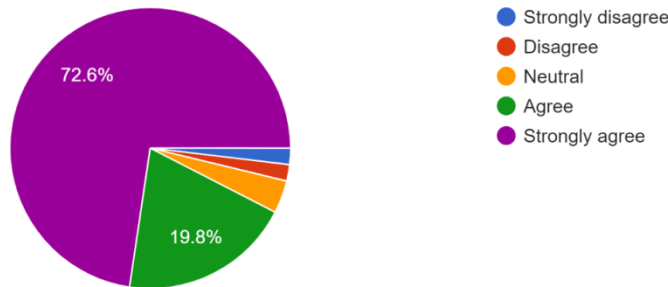
- The responses show strong support for stricter penalties for organizations that violate data privacy laws in India.
- This suggests a demand for greater accountability and deterrence against data privacy violations.

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I believe that there should be stricter penalties for organizations that violate data privacy laws in India.

106 responses

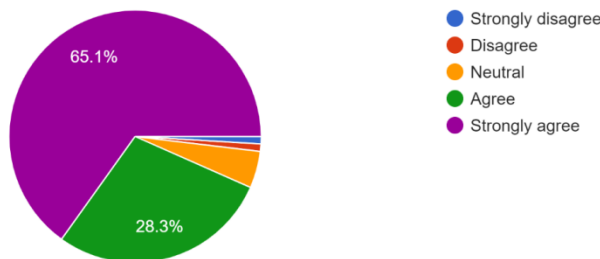


### 11. Support for Public Awareness Campaigns on Digital Privacy Rights:

- The majority (**93.4%**) express support for more public awareness campaigns to educate people about their digital privacy rights.
- This underscores the importance of education and advocacy in promoting digital literacy and empowering individuals to protect their privacy rights effectively.

I believe that there should be more public awareness campaigns to educate people about their digital privacy rights.

106 responses



### 12. Trust in Personal Information Security During Financial Transactions Online:

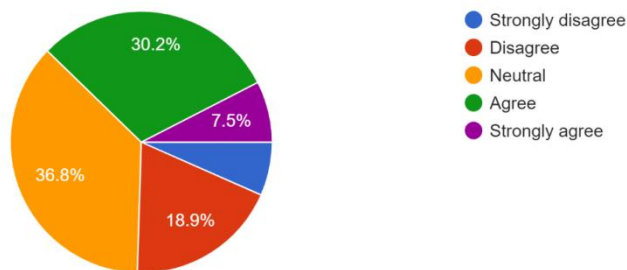
- The responses reveal mixed views on trust in personal information security during financial transactions online.
- The relatively high neutrality (**36.8%**) suggests uncertainty or lack of confidence in the security measures employed by financial institutions and online platforms.

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I trust that my personal information is secure when conducting financial transactions online.

106 responses

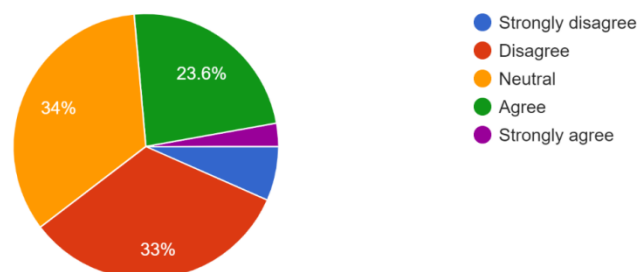


### 13. Transparency Regarding Data Collection Practices:

- A significant portion (**39.6%**) feel there is a lack of transparency regarding the data collection practices of websites and mobile applications.
- This highlights concerns about opaque data practices and the need for greater transparency and accountability in data collection processes.

I feel that there is enough transparency regarding the data collection practices of websites and mobile applications.

106 responses



### 14. Preferences for Measures to Protect Right to Privacy:

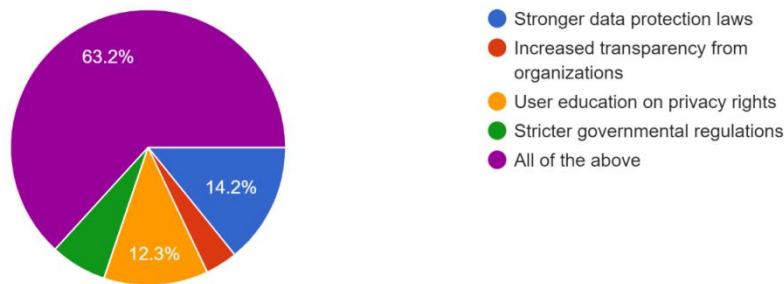
- The majority (63.2%) prefer a comprehensive approach to protecting the right to privacy, encompassing stronger data protection laws, user education, increased transparency from organizations, and stricter governmental regulations.
- This indicates recognition of the multifaceted nature of privacy protection and the need for a holistic strategy to address privacy challenges effectively.

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Which measures do you think can help protect the right to privacy?

106 responses



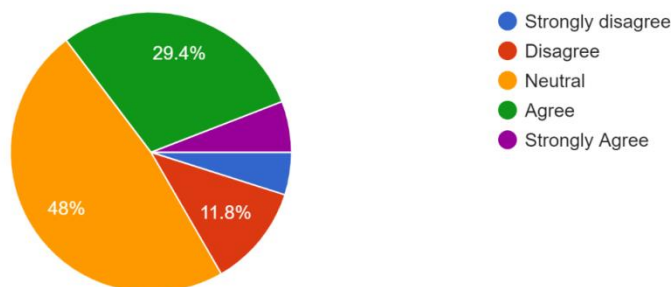
### 15. Perception of Aadhaar Implementation's Respect for Privacy:

- The responses reflect mixed perceptions regarding whether the implementation of UID (Aadhaar) in India respects individuals' right to privacy.

- This suggests varying interpretations of Aadhaar's impact on privacy rights and highlights the complexity of balancing security and privacy considerations in government initiatives.

Does the implementation of UID (Aadhaar) in India respects individuals' right to privacy?

102 responses



### 16. Support for the Right to Request Deletion of Personal Data:

- The overwhelming majority (**90.4%**) support the right to request the deletion of personal data from online platforms and databases, even if it means losing access to certain services.

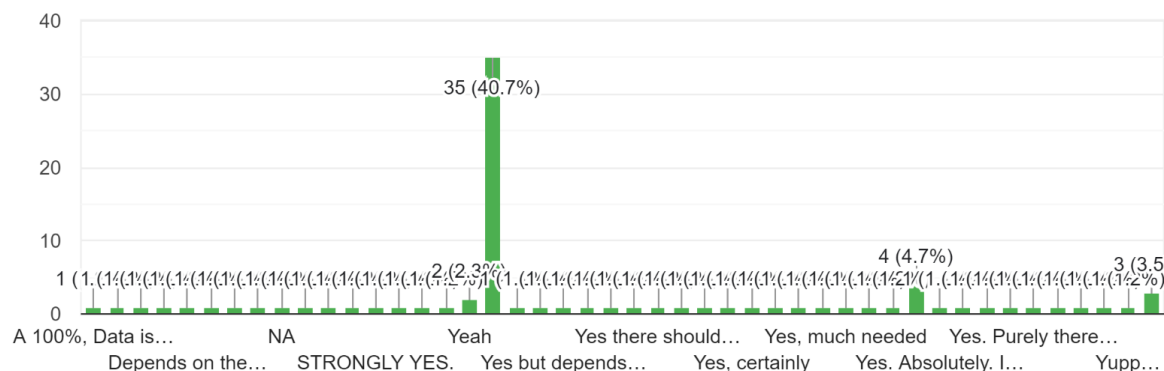
- This underscores the importance of data subject rights and individual control over personal information in the digital age.

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Should individuals have the right to request the deletion of their personal data from online platforms and databases, even if it means losing access to certain services?

86 responses



## DISCUSSION

The survey findings highlight a significant awareness of the right to privacy among respondents, yet they also expose critical gaps in understanding and implementation of privacy protections in India. While 83.1% claim awareness of their privacy rights, a considerable portion remains uncertain or uninformed about the effectiveness of existing laws, such as the **Information Technology Act, 2000**, and the **Personal Data Protection Bill (PDPB), 2019**. The scepticism surrounding the effectiveness of Indian privacy laws (with 33% disagreeing and 39.6% remaining neutral) suggests a lack of confidence in the current legal framework, mirroring concerns raised in the landmark case of **Justice K.S. Puttaswamy (Retd.) v. Union of India (2017)**<sup>3</sup>, where the Supreme Court recognized the right to privacy as a fundamental right under Article 21 of the Constitution. Additionally, concerns regarding Aadhaar and facial recognition technology indicate growing unease about mass surveillance, aligning with the **Aadhaar judgment (2018)**<sup>4</sup>, which upheld Aadhaar’s legitimacy but imposed strict safeguards on data usage.

The survey further underscores public distrust in organizations' handling of personal data, with 50% believing that corporations fail to manage it responsibly. This aligns with global

<sup>3</sup>(2019) 1 SCC 1

<sup>4</sup>Justice K.S. Puttaswamy and Anr. vs. Union of India (UOI) and Ors.,(2019) 1 SCC 1

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discussions on data privacy breaches, such as the **Cambridge Analytica scandal**<sup>5</sup>, and calls for stricter penalties for violations, as supported by 90.6% of respondents. The demand for more robust enforcement mechanisms, transparency in data collection, and stronger public awareness campaigns suggests the necessity for comprehensive data protection legislation akin to the **General Data Protection Regulation (GDPR) in the EU**. Furthermore, the willingness of 90.6% to take personal measures for data protection indicates a shift toward individual responsibility in mitigating privacy risks. However, without legislative clarity and stricter regulations, as suggested by the **BN Srikrishna Committee Report on Data Protection (2018)**<sup>6</sup>, these individual efforts may be insufficient. The findings advocate for a balanced approach that integrates stronger laws, organizational accountability, and public education to ensure effective privacy protection in the digital age.

### **SUGGESTIONS BY THE PUBLIC-**

When asked about the suggestions for the government to increase measures for Right to Privacy highlighted responses in the survey were-

- *The government can enhance privacy rights by implementing clear laws, promoting transparency in data practices, giving individuals more control over their personal data, establishing oversight mechanisms, and educating the public about privacy rights.*
- *A lot of websites collect user information. This information is casually and carelessly distributed around. This leads to many users receiving spam and scam messages. Stricter regulations should be in place regarding the collection and distribution of data.*
- *Public awareness by campaigns to educate about digital privacy rights especially teenagers who believe that social networking sites are the basis of life by promoting it in schools.*
- *The government should try to be more transparent in its approach and should focus more on giving access of necessary things to public.*

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<sup>5</sup>Nicholas Confessore, "Cambridge Analytica and Facebook: The Scandal and the Fallout so Far", *The New York Times*, Apr. 04, 2018, available at: <https://www.nytimes.com/2018/04/04/us/politics/cambridge-analytica-scandal-fallout.html> (last visited on Feb. 9, 2025).

<sup>6</sup>[https://www.drishtias.com/daily-news-analysis/justice-bn-srikrishna-committee-submits-data-protection-report/print\\_manually](https://www.drishtias.com/daily-news-analysis/justice-bn-srikrishna-committee-submits-data-protection-report/print_manually)

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This detailed analysis provides a comprehensive understanding of the survey responses, highlighting key trends, insights, and areas for further consideration or action. It underscores the complexity of privacy issues in the digital age and the importance of addressing them through informed policymaking, public education, and collaborative efforts across sectors.

### **CONCLUSION OF THE SURVEY**

The survey findings, with percentages included, depict a nuanced perspective on privacy rights in India. While 83.1% of respondents demonstrate awareness of their privacy rights, there is a notable 13.2% neutrality, indicating some uncertainty. Concerns about online data protection are high, with 91.5% expressing worry, while 50% distrust organizations' handling of personal data. However, there's overwhelming support (84%) for individuals' right to control their data. The survey highlights a clear call for action, with 93.4% advocating for public awareness campaigns on digital privacy rights.

Taking an overall view of the survey responses, it's clear that privacy concerns are significant, with an average percentage of agreement or concern across all questions standing at approximately 72%. This figure reflects a prevailing sentiment of apprehension and underscores the pressing need for measures to protect individuals' privacy rights in India.

### **CONCLUDING REMARKS AND RECOMMENDATIONS**

In the era of rapid digital transformation, safeguarding individuals' privacy rights is paramount. To achieve this, India must fortify its data protection legislation and promote a culture of privacy by design. By fostering collaboration, encouraging technological innovation, and empowering regulatory authorities, India can establish a robust framework that protects citizens' privacy in the digital age.

1. Focus should be given on strengthening data protection laws- Amend existing legislation like the Personal Data Protection Bill to encompass comprehensive protection of individuals' privacy rights. This entails clear guidelines on data collection, processing, storage, and sharing, with mechanisms for robust enforcement and penalties for violations.

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2. The main is promoting privacy by design and framework by encouraging integrating privacy by design principles into the development of emerging technologies. By considering privacy from the outset, risks can be mitigated, and privacy safeguards can be ingrained into technological systems and processes.

3. There is need to facilitate privacy focused technology development and support research and innovation in privacy-enhancing technologies (PETs) such as encryption, anonymization, and decentralized architectures. These technologies empower individuals to retain control over their personal data while benefiting from technological advancements.

4. There is need to Promote digital literacy initiatives to empower individuals to make informed decisions about their privacy online. Provide resources and training programs to educate the public about privacy risks, data protection practices, and their rights in the digital realm.

5. Advocate for transparency, ethical usage of data and accountability in data collection, use, and sharing by government agencies, corporations, and other entities. Encourage organizations to adopt ethical data practices and obtain explicit consent from individuals before processing their data.

6. Encourage the adoption of privacy-enhancing technologies like encryption and secure multi-party computation to protect individuals' data from unauthorized access and surveillance.

7. Foster collaboration among government agencies, industry stakeholders, civil society organizations, and academic institutions to address privacy challenges collaboratively.

8. Advocate for international cooperation and harmonization of data protection standards to facilitate cross-border data flows while upholding individuals' privacy rights.

9. There must be monitoring and assess to privacy risks and to Establish mechanisms for continuous monitoring and assessment of emerging privacy risks associated with new technologies and data practices.

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10. Providing regulatory authorities with sufficient resources, authority, and independence to effectively enforce privacy regulations and investigate violations.

By implementing these recommendations, India can navigate the complex intersection of emerging technologies and privacy rights, fostering a digital ecosystem that respects and protects the privacy rights of its citizens in the digital age.



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