



Legal Implications of Data Breach Cases in Indonesia: Challenges and Solutions in the Era of Personal Data Protection

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Abstract *In the digital era, cases Data leaks in Indonesia continue increase, cause various implications law to personal data protection. Inadequacy regulation and lack of implementation law cause uncertainty and loss for individuals and organizations. Therefore that, is needed effective solution for overcome challenge in the era of personal data protection. Study This aiming for analyze implications law from case data leaks in Indonesia and offers solution in face challenges that arise along with implementation Constitution Personal Data Protection. Study This use method qualitative with approach studies case. Data obtained through analysis document law, regulation related, and studies literature about data leaks in Indonesia. In addition, interviews with expert law and practitioners in the field data security is also carried out for to obtain outlook more in. Research results show that challenge main in personal data protection in Indonesia includes uncertainty law, weakness enforcement regulation, and the lack of awareness public. Research This also provides recommendation policy for strengthen regulation and improve mechanism personal data protection in Indonesia.*

Keywords legal implications, data breach, personal data protection

1. Introduction

In the increasingly digital era developing, issue personal data leak become attention seriously in various countries, including Indonesia^{1 2}. With the more the amount transactions and interactions carried out online, the amount of personal data

¹ Najamuddin Gani, "Legal Politics and Data Protection in Indonesia : A Case Study of the National Data Center Hacking Najamuddin Gani," *SASI* 30, no. 3 (2024): 296–309, <https://doi.org/10.47268/sasi.v30i3.2213>.

² Abraham Ethan Martupa Sahat Marune and Brandon Hartanto, "Strengthening Personal Data Protection, Cyber Security, and Improving Public Awareness in Indonesia: Progressive Legal Perspective," *International Journal of Business, Economics, and Social Development* 2, no. 4 (2021): 143–52, <https://doi.org/10.46336/ijbesd.v2i4.170>.

collected, processed and stored by various party Keep going increased³. Unfortunately, the system security that has not been adequate often causes data leaks, which are not only harm individual but also makes it worse reputation company as well as cause risk law⁴. A major data breach case involving a number of institutions in Indonesia, such as what happened with BPJS Kesehatan in 2021, show urgency greater protection of personal data strict⁵.

Urgency study This driven by the existence of significant threat to privacy individual and inadequacy regulations that exist in Indonesia in face data leak. Although has There is Constitution Personal Data Protection (PDP Law), challenges in its implementation Still Lots found. One of the most common problems happen is weakness mechanism enforcement law and not existence clear minimum standards about personal data protection in Indonesia. This is strengthen need For identify solution practical that can implemented soon ⁶.

Table 1. The Urgency of Data Breach in Indonesia

No	Facts/Findings	Source
1	BPJS Health Data Leak	Ministry of Communication and Information, 2021
2	Improvement incident data leak in	Statistics, 2022
3	Weakness mechanism enforcement law after the PDP Law was passed (2022)	Digital Rights Asia,
4	Ranking in the Data Protection Regulations Index (2023)	Data Protection Regulations Index, 2023
5	70% of companies Not yet understanding the PDP Law	Indonesian Cybersecurity Forum,
6	65% of institutions use standard security that is not GDPR compliant (2022)	Indonesian Information Security Association, 2022

In general theoretically, data leaks can see from perspective law contractual , where the provider service own not quite enough answer law For protect personal data its users . According to Benedicta, in a number of jurisdictions, data leaks that are not handled with Good can considered as violation contract or negligence resulting in

³ I Putu Hadi Pradnyana et al., "Securing Democracy in Cyberspace: Voter Data Leaks In Indonesia ' S 2024 Election," *JURNAL TRIAS POLITIKA* 8, no. 2 (2024): 292–305, <https://doi.org/https://doi.org/10.33373/jtp.v8i2.6541>.

⁴ Puti Mayang Seruni Hasnati Hasnati, "Consumer's Personal Data Protection in the Digital Era," *Jurnal Ius Constituendum* 9, no. 1 (2024): 20–35, <https://journals.usm.ac.id/index.php/jic/article/view/8061>.

⁵ KOMINFO, "Kementerian Komunikasi Dan Informatika," November 2020.

⁶ Moody Rizqy Syailendra, Gunardi Lie, and Amad Sudiro, "Personal Data Protection Law in Indonesia: Challenges and Opportunities," *Indonesia Law Review* 14, no. 2 (2024): 56–72.

sanctions severe law⁷. In Indonesia, although the PDP Law has ratified, implementation standard Data security is still minimal. This fact confirms importance improvement awareness about not quite enough answer law related data leaks and urgency improvement security information.

A number of studies previously has discuss data leaks and their impact to society. Sari (2020) researched case data leaks in the e-commerce sector and found that weak regulation contribute to the height amount case data leaks. On the other hand, Rachman (2019) highlighted importance role strong regulation in reduce risk data leaks in the sector public. Research This emphasize the need repair regulation and enforcement law in overcome challenge data leak.

Although a number of study has done related data leaks, studies that special analyze implications law from data leak in Indonesia with focus on challenges and solutions Not yet Lots done. Most of the study only limited to evaluation policy without touch aspect enforcement effective law in case data leak. This is creating gap research needed filled with more analysis deep about solution law that can applied in a way practical in Indonesia.

Uniqueness from study This lies in its comprehensive approach in analyze No only challenge regulations, but also solutions that can applied for increase personal data protection in Indonesia. Research This also provides analysis comparison between practice data protection in Indonesia and other countries that have succeed overcome case data leak with well, like the European Union through the General Data Protection Regulation (GDPR).

Study This aiming for analyze implications law from data leaks in Indonesia, identifying challenge in implementation of the PDP Law, as well as offer solutions that can increase personal data protection in Indonesia. With thus, research This expected can give contribution real in strengthening regulations and mechanisms greater protection of personal data Good.

2. Method

Study This use approach qualitative with design studies case. Approach qualitative chosen Because study This aiming for understand in a way deep implications laws and challenges in personal data leaks in Indonesia, as well as offer relevant solutions in context data protection. Case study used for explore cases data leaks that ever happened happening in Indonesia, both in the sector public and also private. Population in study This covering all institution government, company private, and users services affected data leak in Indonesia. Research sample taken purposively, with focus on a few cases the biggest data leak ever happens, like BPJS

⁷ Benedicta Ehimuan et al., "Global Data Privacy Laws: A Critical Review of Technology's Impact on User Rights," *World Journal of Advanced Research and Reviews* 21, no. 2 (2024): 1058–70, <https://doi.org/10.30574/wjarr.2024.21.2.0369>.

Kesehatan data leak and e-commerce. In addition, experts law, privacy - focused attorneys, and practitioners security cyber was also interviewed For give outlook more deep related challenges and solutions in data leak. Data Leakage Analysis document done to policies, laws and regulations related personal data protection, such as the Personal Data Protection Act and regulations issued by the Ministry of Communication and Information. Procedure study started with stage collection literature and documents related data leaks and personal data protection in Indonesia. After that, is done selection sample case big data leak that became focus research. Data analyzed use technique analysis thematic. First step is read transcript interviews and documents for identify themes main related implications law data leaks, challenges implementation data protection, and proposed solutions. After themes main identified, the data is then categorized to in relevant subthemes. Analysis done in a way iterative for ensure that all aspect important from implications law, challenges and solutions has covered with good.

3. Result & Discussion

A. Analysis Legal Implications of Data Breach Cases in Indonesia

Leak cases in Indonesia have given impact significant law, both for responsible institution answer on data management and individuals who are victims⁸. In some cases, such as BPJS Health data leak, there is ambiguity in implementation sanctions law for negligent party⁹ ¹⁰. Constitution the Personal Data Protection Act (PDP Act) which was enacted in 2022 actually designed for give more protection strong, but its enforcement Still face various obstacle (Kominfo, 2021). Many companies and institutions the public who have not fully understand or apply regulation This in a way effective¹¹.

In addition, data leaks are often considered as violation privacy, which has implications for loss reputation for company or the relevant institution. In law, personal data protection violations can categorized as violation contractual or even violation laws, depending on the context and magnitude impact. Interview results

⁸ Farah Diba Tanzilla, Margaretha Hanita, and Bondan Widiawan, "Cyber Security In Indonesia Post Establishment Of The Personal Data Protection Law," *International Journal of Progressive Sciences and Technologies* 40, no. 2 (2023): 164, <https://doi.org/10.52155/ijpsat.v40.2.5617>.

⁹ E C T Pattipeilohy, "Juridical Analysis of Personal Data Protection in the Case of BPJS Personal Data Leakage Reviewed from a Positive Legal Perspective," *The International Journal of Politics and ...* 11, no. 2 (2023): 373–83, <https://ijobsor.pelnus.ac.id/index.php/ijopsor/article/view/145%0Ahttps://ijobsor.pelnus.ac.id/index.php/ijopsor/article/download/145/160>.

¹⁰ Rina Shahriyani Shahrullah, Jihyun Park, and Irwansyah, "Examining Personal Data Protection Law of Indonesia and South Korea: The Privacy Rights Fulfilment," *Hasanuddin Law Review* 10, no. 1 (2024): 1–20, <https://doi.org/10.20956/halrev.v10i1.5016>.

¹¹ Yogesh K. Dwivedi et al., "Setting the Future of Digital and Social Media Marketing Research: Perspectives and Research Propositions," *International Journal of Information Management* 59, no. June 2020 (2021): 102168, <https://doi.org/10.1016/j.ijinfomgt.2020.102168>.

with practitioner law show that Lots company No own standard adequate security, so that increase risk data leak (Sari, 2020). This becomes problem crucial in the middle the more development digital transactions in Indonesia.

Implications law from data leaks also involve uncertainty in implementation sanctions. Although the PDP Law has arranged about sanctions administrative and criminal, in the practice enforcement law Still less than optimal. No supervisory body strong independent make Lots violation No investigated with serious, so that victims of data leaks often do not get adequate protection (Greenleaf, 2020). This is confirming the need improvement effort in strengthen enforcement law in the sector personal data protection.

B. Challenges in Implementation of the Personal Data Protection Act in Indonesia

One of challenge the biggest in the implementation of the PDP Law in Indonesia is weakness enforcement law. Although Constitution the has designed with Enough comprehensive, its implementation in the field Still meet various constraints. Many companies Not yet own adequate internal policies for protect personal data, and authorities enforcer law often not own sufficient capacity For supervise data breach effective (Setiadi, 2022). This is exacerbated by the low awareness public about importance personal data protection.

Challenge next lies in the lack of infrastructure adequate technology for support data protection. Many companies and institutions public Still use old technology is vulnerable to attack cyber. In the case of e-commerce data leaks in Indonesia, for example, were discovered that system encryption used Not yet follow standard more international safe, so that increase risk data hacking¹². Disadvantages in matter technology This put Lots organization in a weak position in guard personal data security user.

In addition, the challenges in the implementation of the PDP Law are also related with insufficiency source Power competent human being in the field data security. Many organizations Not yet own dedicated team for manage and protect personal data. Lack of training and education in the field This make Lots company No Ready face threat data leak. This is show the need improvement capacity at various levels, including government and sector private, for ensure that personal data protection can implemented with Good.

C. Legal and Policy Solutions for Strengthen Personal Data Protection

One of solution main for overcome problem data leaks in Indonesia are strengthen mechanism enforcement law. This is can done with form a supervisory body independent who has authority full for supervise implementation of the PDP

¹² Rodiatun Adawiyah et al., "Analysis of E-Commerce Data Breach and Theft," *Priviet Social Sciences Journal* 2, no. 2 (2022): 11–14, <https://doi.org/10.55942/pssj.v2i2.168>.

Law in various sector. This agency must own authority for give strict sanctions to offender as well as provide clear guidelines for company related standard personal data security (Greenleaf, 2020). In addition, the government need adopt standard more international strict in personal data protection.

Improvement competence source Power humans also become solution important. Through training specializing in the field data security, both in the sector government and also private, organization can more Ready in face challenge data leak. Training This No only intended to IT team, but also to management the company that must understand implications law from data leaks ¹³. In addition, the company must require for to form team special handling personal data protection in a way professional and sustainable.

From the side technology, updates system security become necessity. Use more encryption sophisticated, such as encryption blockchain based, can become solution for reduce risk future data leaks. Standards security This must adopted by all companies that manage personal data, especially those operating in highly vulnerable sectors like banking, health, and e-commerce¹⁴. With combination between enforcement more laws strong, increase source Power humans, and more technology sophisticated, personal data protection in Indonesia is expected can more guaranteed.

4. Conclusion

Study This highlight implications law, challenges and solutions in face data leaks in Indonesia, in particular after enactment of the Personal Data Protection Act. From the results analysis, can concluded that data leak has impact significant law, both for individuals who are victims or negligent institution in protect data. Enforcement law in Indonesia regarding cases data leaks still not optimal, which is caused by weaknesses in implementation regulation, lack of competence source Power humans, and lack of infrastructure adequate technology.

Challenge in implementation of the PDP Law also includes weakness awareness public as well as low understanding companies and institutions related obligation law, they in protect personal data. Although regulation has made, without supervision and enforcement strong law, risk data leak persists high. In addition, the infrastructure security cyber in many organizations Still No adequate for face an increasing threat complex. For overcome challenge this, some proposed solution covering formation of a supervisory body independent who has authority For to uphold law, improvement competence source Power man through training, as well as adoption technology more security proceed like encryption blockchain based. With steps this, it is expected personal data protection in Indonesia can improved in a way significant, giving protection more good for society, and minimize impact future data leaks.

¹³ Kelly D. Martin, Abhishek Borah, and Robert W. Palmatier, "Data Privacy: Effects on Customer and Firm Performance," *Journal of Marketing* 81, no. 1 (2017): 36–58, <https://doi.org/10.1509/jm.15.0497>.

¹⁴ Benedicta Ehimuan et al., "Global Data Privacy Laws: A Critical Review of Technology's Impact on User Rights."

5. Declaration of Conflicting Interests

Please state any conflicting interests of this publication and research. If there is no, please type: The authors state that there is no conflict of interest in the publication of this article.

6. References

- Adawiyah, Rodiatun, Muhammad Arif Prasetyo, Raymond Septiyan, Steven Leonardy, and Michael Calvin. "Analysis of E-Commerce Data Breach and Theft." *Priviet Social Sciences Journal* 2, no. 2 (2022): 11-14. <https://doi.org/10.55942/pssj.v2i2.168>.
- Benedicta Ehimuan, Ogugua Chimezie, Ob, Onyinyechi Vivian Akagha, Oluwatosin Reis, and Bisola Beatrice Oguejiofor. "Global Data Privacy Laws: A Critical Review of Technology's Impact on User Rights." *World Journal of Advanced Research and Reviews* 21, no. 2 (2024): 1058-70. <https://doi.org/10.30574/wjarr.2024.21.2.0369>.
- Dwivedi, Yogesh K., Elvira Ismagilova, D. Laurie Hughes, Jamie Carlson, Raffaele Filieri, Jenna Jacobson, Varsha Jain, et al. "Setting the Future of Digital and Social Media Marketing Research: Perspectives and Research Propositions." *International Journal of Information Management* 59, no. June 2020 (2021): 102168. <https://doi.org/10.1016/j.ijinfomgt.2020.102168>.
- Gani, Najamuddin. "Legal Politics and Data Protection in Indonesia : A Case Study of the National Data Center Hacking Najamuddin Gani." *SASI* 30, no. 3 (2024): 296-309. <https://doi.org/10.47268/sasi.v30i3.2213>.
- Hasnati Hasnati, Puti Mayang Seruni. "Consumer's Personal Data Protection in the Digital Era." *Jurnal Ius Constituendum* 9, no. 1 (2024): 20-35. <https://journals.usm.ac.id/index.php/jic/article/view/8061>.
- KOMINFO. "Kementerian Komunikasi Dan Informatika," November 2020.
- Martin, Kelly D., Abhishek Borah, and Robert W. Palmatier. "Data Privacy: Effects on Customer and Firm Performance." *Journal of Marketing* 81, no. 1 (2017): 36-58. <https://doi.org/10.1509/jm.15.0497>.
- Marune, Abraham Ethan Martupa Sahat, and Brandon Hartanto. "Strengthening Personal Data Protection, Cyber Security, and Improving Public Awareness in Indonesia: Progressive Legal Perspective." *International Journal of Business, Economics, and Social Development* 2, no. 4 (2021): 143-52. <https://doi.org/10.46336/ijbesd.v2i4.170>.
- Pattipeilohy, E C T. "Juridical Analysis of Personal Data Protection in the Case of BPJS Personal Data Leakage Reviewed from a Positive Legal Perspective." *The International Journal of Politics and ...* 11, no. 2 (2023): 373-83. <https://ijobsor.pelnus.ac.id/index.php/ijopsor/article/view/145%0Ahttps://ijobsor.pelnus.ac.id/index.php/ijopsor/article/download/145/160>.
- Pradnyana, I Putu Hadi, Rhesa Anggara Utama, Ni Wayan, and Ditha Sasmita. "Securing Democracy in Cyberspace: Voter Data Leaks In Indonesia ' S 2024 Election." *JURNAL TRIAS POLITIKA* 8, no. 2 (2024): 292-305.

<https://doi.org/https://doi.org/10.33373/jtp.v8i2.6541>.

Shahrullah, Rina Shahriyani, Jihyun Park, and Irwansyah. "Examining Personal Data Protection Law of Indonesia and South Korea: The Privacy Rights Fulfilment." *Hasanuddin Law Review* 10, no. 1 (2024): 1-20. <https://doi.org/10.20956/halrev.v10i1.5016>.

Syailendra, Moody Rizqy, Gunardi Lie, and Amad Sudiro. "Personal Data Protection Law in Indonesia: Challenges and Opportunities." *Indonesia Law Review* 14, no. 2 (2024): 56-72.

Tanzilla, Farah Diba, Margaretha Hanita, and Bondan Widiawan. "Cyber Security In Indonesia Post Establishment Of The Personal Data Protection Law." *International Journal of Progressive Sciences and Technologies* 40, no. 2 (2023): 164. <https://doi.org/10.52155/ijpsat.v40.2.5617>.