

# Integrating Islamic Laws into Indonesian Data Protection Laws: An Analysis of Regulatory Landscape and Ethical Considerations

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## Abstract

This study explores the intersection of personal data protection laws in Indonesia with Islamic principles, focusing on the regulatory landscape and ethical considerations surrounding data privacy. With the proliferation of digital technologies and data-driven processes, safeguarding personal information has become paramount. Drawing from legal frameworks, Islamic jurisprudence, and contemporary discussions on data privacy, this research investigates how Islamic principles inform and complement existing data protection measures in Indonesia. The analysis begins by examining the legal foundation of personal data protection in Indonesia, emphasizing key provisions of relevant legislation and constitutional mandates. It then delves into Islamic principles related to privacy, confidentiality, and ethical conduct, as derived from primary Islamic sources such as the Quran, Hadiths, and scholarly interpretations.



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The study evaluates the alignment between personal data protection laws and Islamic ethics, identifying areas of convergence and potential divergence. It explores the implications of Islamic principles for data handling practices, consent requirements, and accountability mechanisms within the Indonesian context. Furthermore, the research discusses the practical implications of integrating Islamic principles into data protection frameworks, considering challenges, opportunities, and best practices for ensuring compliance and ethical data governance. By bridging legal and ethical perspectives, this study contributes to a deeper understanding of personal data protection in Indonesia and offers insights into the role of Islamic principles in shaping contemporary approaches to privacy and confidentiality in the digital age. It underscores the importance of holistic and culturally approaches to data governance that respect both legal requirements and ethical norms derived from Islamic teachings.

**KEYWORDS** *Personal Data Protection, Regulatory Landscape, Ethics, Islamic Values, Indonesian Legal System*

## Introduction

The integration of Islamic principles into data protection laws in Indonesia is not merely a legal or technical endeavor; it is deeply rooted in the cultural and religious fabric of the nation. As such, any attempt to formulate and implement data protection regulations must take into account the values and beliefs held dear by the Indonesian populace, particularly those grounded in Islam.<sup>1</sup>

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<sup>1</sup> Norwawi, Norita Md, et al. "Promoting Islamic Ethics on Privacy in Digital Social Network For User Data Protection and Trust." *'Ulūm Islāmiyyah Journal* 197, no. 1979 (2014): 1-23. See also Sarabdeen, Jawahitha, and Mohamed Mazahir Ishak. "Compliance of Saudi Arabian Personal Data Protection Law 2021 to Islamic Principles of Privacy." *Migration Letters* 21, no. 4 (2024): 726-737; Suwondo, Denny. "The Legal Protection of Personal Data in Islamic Perspective." *International Journal of Law Reconstruction* 7, no. 2 (2021): 221-230.

Moreover, the ethical considerations that arise in this process are multifaceted and nuanced. They extend beyond legal compliance to encompass broader notions of morality, societal norms, and individual rights.<sup>2</sup> Balancing the demands of modern data governance with the ethical imperatives dictated by Islamic teachings requires a nuanced understanding of both domains.

Furthermore, this paper acknowledges the dynamic nature of technology and its implications for privacy and data protection. As technological advancements continue to reshape the digital landscape, it becomes imperative to reassess and adapt regulatory frameworks to address emerging challenges effectively. In this context, the integration of Islamic laws into data protection regulations must be approached with flexibility and foresight, ensuring that the legal framework remains relevant and robust in the face of evolving threats and opportunities.

Ultimately, this paper seeks to foster dialogue and collaboration among stakeholders from diverse backgrounds—legal, religious, ethical, and technological—to forge a path forward that upholds the principles of privacy, transparency, and accountability while respecting the cultural and religious identity of Indonesia. By engaging in this discourse, we can collectively strive towards a future where data protection laws not only reflect the aspirations of the nation but also resonate with its rich heritage and values.

In the subsequent sections of this paper, we will delve deeper into the regulatory landscape of data protection in Indonesia, explore the ethical dimensions of integrating Islamic laws into this framework, and offer recommendations for policymakers, practitioners, and scholars alike. Through rigorous analysis and thoughtful deliberation, we aim to contribute meaningfully to the ongoing discourse on data protection and ethics in Indonesia and beyond.

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<sup>2</sup> Komaruddin, Koko, et al. "Islamic Perspectives on Cybersecurity and Data Privacy: Legal and Ethical Implications." *West Science Law and Human Rights* 1, no. 4 (2023): 166-172; Indriasari, Devi Tri, and Karman Karman. "Privacy, Confidentiality, and Data Protection: Ethical Considerations in the Use of the Internet." *International Journal of Islamic Education, Research and Multiculturalism (IJIERM)* 5, no. 2 (2023): 431-450.

In line with this context, Indonesia, as a nation dedicated to fostering religious and spiritual growth, embraces diverse facets of faith, spanning creedal doctrines, ritual observances, moral precepts, and social norms.<sup>3</sup> The cultivation of religious values within Indonesian society mandates stringent adherence to rules and laws to cultivate an atmosphere conducive to harmony and coexistence.<sup>4</sup>

Article 29, paragraph (1) of the Constitution of the Republic of Indonesia underscores the imperative that the state administration must not contravene Islamic, Christian, Hindu-Bali, and other religious laws and norms, as well as the moral standards upheld by the Indonesian nation.<sup>5</sup> Despite being recognized as the world's most populous Muslim nation, Indonesia is characterized neither as an "Islamic state" in religio-political terms nor as an ideologically homogeneous entity. Instead, Indonesia is founded upon an official doctrine known as Pancasila.<sup>6</sup> Within this framework, Islamic principles and laws play a significant role in shaping national legislation, contributing as a foundational source of values.<sup>7</sup>

The prevalence of data breaches, both domestically in Indonesia and internationally, underscores the critical importance of integrating robust data protection measures into existing legal frameworks. As discussed earlier, Indonesia has witnessed alarming instances of personal data breaches, which have compromised the privacy rights of its citizens and posed significant risks to societal well-being. These breaches highlight the

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<sup>3</sup> Farih, Amin. "Konsistensi Nahdlatul Ulama' dalam Mempertahankan Pancasila dan Kedaulatan Negara Kesatuan Republik Indonesia di tengah Wacana Negara Islam." *Jurnal Politik Walisongo* 1, no. 1 (2019): 1-20.

<sup>4</sup> Sauri, Sofyan. "Membangun Karakter Bangsa Melalui Pembinaan Profesionalisme Guru Berbasis Pendidikan Nilai." *Jurnal Pendidikan Karakter* 2, no. 2 (2010): 1-15; Umar, Mardan. "Urgensi Nilai-Nilai Religius dalam Kehidupan Masyarakat Heterogen di Indonesia." *Jurnal Civic Education: Media Kajian Pancasila dan Kewarganegaraan* 3, no. 1 (2019): 71-77.

<sup>5</sup> H Zainuddin Ali, *Hukum Islam: Pengantar Ilmu Hukum Islam Di Indonesia* (Jakarta: Sinar Grafika, 2022).

<sup>6</sup> Nurcholish Madjid, *Mencari Akar-Akar Islam Bagi Pluralisme Modern: Pengalaman Indonesia*, Mizan (Bandung: Mizan, 1998).

<sup>7</sup> Utama, Sopyan Mei. "Eksistensi Hukum Islam dalam Peraturan Perundang-Undangan di Indonesia." *Jurnal Wawasan Yuridika* 2, no. 1 (2018): 58-68.

urgent need for effective regulation and enforcement to safeguard personal data in the digital age.<sup>8</sup>

Furthermore, the intersection of Islamic laws and Indonesian data protection laws becomes particularly relevant in addressing these challenges. Islamic principles, such as the importance of privacy and accountability, can offer valuable insights into crafting ethical and culturally sensitive approaches to data protection. By integrating Islamic values into the regulatory landscape, policymakers can strive to ensure that data protection laws resonate with the cultural and religious identity of the nation while upholding fundamental principles of justice and fairness.<sup>9</sup>

Moreover, the international dimension of data breaches emphasizes the interconnected nature of data protection challenges. Cases such as those involving Amazon, WhatsApp, Google, and Instagram demonstrate the global reach and impact of data breaches, underscoring the need for harmonized regulatory frameworks and collaborative efforts across borders.

In this context, the analysis of data protection laws in Indonesia must consider not only domestic challenges but also global trends and best practices. By examining both local and international perspectives, policymakers and stakeholders can work towards developing comprehensive and effective strategies for protecting personal data while respecting cultural, religious, and ethical considerations.<sup>10</sup>

Thus, the discussion on data breaches serves as a compelling backdrop for exploring the integration of Islamic laws into Indonesian data protection laws and highlighting the broader importance of ethical and culturally sensitive approaches to data governance.

In response to escalating concerns over data breaches, the government took proactive measures. Since 2019, the enactment of Law Number 27 of 2022 on Personal Data Protection (hereinafter as PDP

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<sup>8</sup> Armayra, Miza, et al. "Manual dan Komputerisasi: Manakah Yang Lebih Efektif dalam Penerapan Siklus Akuntansi." *Akuntansi* 2, no. 2 (2023): 233-243.

<sup>9</sup> Mardiana, Nela, and A. Meilan. "Urgensi Perlindungan Data Pribadi dalam Prespektif Hak Asasi Manusia." *Jurnal Rechten: Riset Hukum dan Hak Asasi Manusia* 5, no. 1 (2023): 16-23.

<sup>10</sup> Sinta Dewi Rosadi, *Pembahasan UU Pelindungan Data Pribadi (UU RI No. 27 Tahun 2022)* (Jakarta: Sinar Grafika, 2022).

Law) marks a significant step forward. This legislative milestone coincided with a surge in incidents involving the unauthorized disclosure of personal data. The primary objective of this regulation is to safeguard citizens' rights to personal privacy while ensuring the acknowledgment and adherence to robust data protection standards.<sup>11</sup>

The law categorizes personal data into two distinct classifications: specific personal data and general personal data. Specific personal data encompasses sensitive information such as health records, biometric and genetic data, criminal histories, data concerning children, personal financial information, and any other data stipulated by prevailing laws and regulations. Conversely, general personal data, as defined in the PDP Law, includes more commonplace identifiers such as names, genders, nationalities, religions, marital statuses, and any combination of data used for individual identification purposes.<sup>12</sup>

This legislation serves as a crucial mechanism for addressing the intricate nuances of personal data management and protection. By delineating clear distinctions between specific and general personal data, the law provides a framework for regulating the collection, storage, and processing of sensitive information while ensuring individuals' fundamental right to privacy is upheld.<sup>13</sup>

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<sup>11</sup> Hendri, Hendri, Suriyanto Suriyanto, and Resi Pranacitra. "Kepastian dan Perlindungan Hukum Terhadap Data Pribadi Pengguna Fintech Peer To Peer Lending." *Jurnal Ilmiah Universitas Batanghari Jambi* 23, no. 1 (2023): 848-854. See also Fiorentina, Prita, et al. "Legal Protection of Consumer Personal Data in Indonesia Fintech Peer-To-Peer Lending Pioneers." *Pandecta Research Law Journal* 17, no. 2 (2022): 307-312; Dinanti, Dinda, et al. "Politics of Law for the Protection of Debtors as Consumers in Fintech based Loaning Services." *Unnes Law Journal* 6, no. 2 (2020): 427-444; Tiara, Zalna, and Kukuh Tejomurti. "Efficiency of Implementation of Alternative Dispute Settlement for Fintech Lending Users." *Jurnal Scientia Indonesia* 8, no. 1 (2022): 37-52.

<sup>12</sup> Annan, Alaikha. "Tinjauan Yuridis Perlindungan Data Pribadi Pada Sektor Kesehatan Berdasarkan Undang-Undang No. 27 Tahun 2022." *Synergy: Jurnal Ilmiah Multidisiplin* 1, no. 4 (2024): 247-254. See also Diniyanto, Ayon, and Heris Suhendar. "How Law Responds to Technological Development?." *Unnes Law Journal* 6, no. 2 (2020): 405-426.

<sup>13</sup> Annan.

Article 3, letter h of Law No. 27 of 2022 emphasizes confidentiality as a fundamental principle. This provision underscores the significance of safeguarding sensitive information, aligning with the broader context of national law that integrates principles from Islamic teachings as essential sources of value. Within Islamic jurisprudence, maintaining the confidentiality of secrets holds great importance. A hadith specifically addresses this, stating:

Narrated to us Abdullah bin Sabbaah, who narrated to us Mu'tamir bin Sulaiman, he said: I heard my father saying, "I heard Anas bin Malik saying that the Prophet Muhammad (peace be upon him) confided a secret to me, and I did not disclose it to anyone after him. Indeed, Umm Sulaim asked me about it, but I did not inform her." (H.R Imam Bukhori No. 5815)<sup>14</sup>

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<sup>14</sup> Available online at <https://www.hadits.id/hadits/bukhari/5815>. The narration describes Anas bin Malik's commitment to maintaining the confidentiality of a secret that the Prophet Muhammad (peace be upon him) confided in him. From a legal perspective, this can be seen as an example of a confidentiality agreement or a fiduciary duty. Anas bin Malik considered the secret disclosed to him as confidential information and made a vow not to disclose it to anyone else. Furthermore, when Umm Sulaim inquired about the secret, Anas bin Malik's refusal to disclose it demonstrates his adherence to his duty of confidentiality despite external pressure or curiosity. This highlights the legal principle that confidential information should not be disclosed even when requested by others, unless there are specific legal exceptions or justifications. In legal practice, confidentiality agreements are commonly used to protect sensitive information shared between parties, such as in employment contracts, non-disclosure agreements, or attorney-client relationships. Breaching confidentiality obligations can lead to legal consequences, including civil liability for damages or injunctions to prevent further disclosure. *See also* Albaar, Ragwan. "The Principle of Confidentiality in Islamic Guidance and Counseling: A Review of Hadith." *Jurnal Bimbingan dan Konseling Islam* 12, no. 2 (2022): 184-207. Also compare with Zuhuda, Sonny. "Information security in the Islamic perspective: The principles and practices." *Proceeding of the 3rd International Conference on Information and Communication Technology for the Moslem World (ICT4M) 2010*. IEEE, 2010; Tavaokkoli, Saeid Nazari, Nasrin Nejad sarvari, and Ali Ebrahimi. "Analysis of medical confidentiality from the Islamic ethics perspective." *Journal of Religion and Health* 54 (2015): 427-434.

In light of Indonesia's incorporation of Islamic law as one of its legal foundations, it becomes imperative to scrutinize the application of the principle of confidentiality within the framework of Law Number 27 of 2022, especially considering the surge in personal data cases within the country, as outlined previously.

Furthermore, Article 4, paragraph (3), letter f of the aforementioned law specifies that Internet Protocol (IP) addresses are considered personal data when combined to identify individuals, categorizing them as general personal data. Previous research, such as that conducted by Sulistyowati, underscores that a breach of confidentiality transpires when information is deemed confidential, obligating a party to maintain its secrecy, yet unauthorized use or disclosure of said information occurs.<sup>15</sup>

Moreover, research by Parida Angriani Baiq sheds light on how Islamic principles prioritize values derived from the Quran and Hadith, emphasizing obedience to Allah's commands. Baiq also underscores the significance of positive law, which elaborates extensively on the imperative of safeguarding personal data, particularly in e-commerce transactions. This legal framework prioritizes formulating regulations in alignment with social and humanitarian interests, thereby emphasizing the government's duty to safeguard its citizens' well-being.<sup>16</sup>

However, these studies fall short in providing a comprehensive analysis of how the principle of confidentiality in Islamic law is translated into the provisions of Law Number 27 of 2022. Further exploration is necessary to elucidate how Islamic principles of confidentiality are

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<sup>15</sup> Wati, Sulistyowati Sulis, and Choirul Anam. "Implementasi Perlindungan Hukum terhadap Rahasia Data Nasabah dalam Perspektif Hukum Perbankan Islam (Studi Kasus Bank Muamalat Surabaya)." *Jurnal Lentera: Kajian Keagamaan, Keilmuan dan Teknologi* 20, no. 2 (2021): 303-320.

<sup>16</sup> Baiq, Parida Angriani. "Perlindungan Hukum terhadap Data Pribadi dalam Transaksi E-Commerce: Perspektif Hukum Islam dan Hukum Positif." *DIKTUM: Jurnal Syariah dan Hukum* 19, no. 2 (2021): 149-165. See also Haganta, Raphael. "Legal Protection of Personal Data as Privacy Rights of E-Commerce Consumers Amid the Covid-19 Pandemic." *Lex Scientia Law Review* 4, no. 2 (2020): 77-90; Admiral, Admiral, and Mega Ardina Pauck. "Unveiling the Dark Side of Fintech: Challenges and Breaches in Protecting User Data in Indonesia's Online Loan Services." *Lex Scientia Law Review* 7, no. 2 (2023): 995-1048.



integrated into contemporary legal frameworks, particularly in the realm of personal data protection.

This research delves into the intersection of Islamic teachings on confidentiality and their practical application within the legal framework outlined by Law Number 27 of 2022 in Indonesia. Its primary aim is to elucidate how the principle of confidentiality in Islamic law is translated into the provisions of this contemporary legislation.

The significance of this research lies in its contribution to enhancing public understanding of both the principles of confidentiality in Islamic teachings and their integration into the modern legal landscape of Indonesia, particularly within the context of data protection. Furthermore, this study seeks to shed light on the implementation of confidentiality principles concerning Internet Protocol (IP) addresses, which are considered personal data, and explore how they are safeguarded under Indonesian law, with insights drawn from Islamic jurisprudence.

## Principles of Confidentiality in Islam

Keeping secrets is important in Islamic teachings. Thohar Musnamar argues that the principle of confidentiality is very relevant in Islam where a Muslim is strictly prohibited from telling the disgrace or badness of others to others, even Islam also threatens those who like to open their brother's disgrace is likened to eating the carcass of their own brother's flesh.<sup>17</sup> This is in line with the words of the Prophet Muhammad PBUH. In one of the traditions quoted from the hadith of Sahih Bukhari that if someone peeks into your house when you do not allow it, then you throw a stone so that it blinds his eyes, you do not get a sin for it.<sup>18</sup>

Islam teaches the importance of maintaining the privacy and secrets of others. As the story through the word of Allah in the Qur'an, namely:<sup>19</sup>

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<sup>17</sup> Thohari Musnamar, *Dasar-Dasar Konseptual Bimbingan dan Konseling Islami* (Yogyakarta: Universitas Islam Indonesia Press, 2002). See also Husni, Desma. "Pengukuran Konsep Amanah dalam Pendekatan Kualitatif Dan Kuantitatif." *Jurnal Psikologi* 43, no. 3 (2016): 194-206.

<sup>18</sup> Al-Albani M. Nashirudin, *Ringkasan Shahih Bukhari*. (Yogyakarta: Gema Insani, 2003).

<sup>19</sup> Al Quran. *At-Tabrim* 66: 3. English version retrieved from <https://quran.com/at-tahrim/3>

‘Remember’ when the Prophet had ‘once’ confided something to one of his wives, then when she disclosed it ‘to another wife’ and Allah made it known to him, he presented ‘to her’ part of what was disclosed and overlooked a part. So, when he informed her of it, she exclaimed, “Who told you this?” He replied, “I was informed by the All-Knowing, All-Aware.” (At-Tahrim: 3).

In this passage, Allah recounts an incident involving the Prophet Muhammad, wherein he entrusted his wife Hafsah with a secret: his consumption of honey at the house of Zainab bint Jahsh, with the instruction to keep it confidential and not disclose it to anyone.<sup>20</sup> Subsequently, Hafsah confided in 'Aisha about the matter, which led to Allah informing the Prophet Muhammad about their conversation. The Prophet then confronted Hafsah regarding the breach of confidentiality, prompting her astonishment and inquiry as to how he came to know. In response, the Prophet attributed his knowledge to Allah, emphasizing Allah's omniscience as the All-Knowing Lord of secrets and whispers, with unparalleled insight into all that occurs on earth and in the heavens, leaving nothing concealed from Him.<sup>21</sup>

The concept of confidentiality in Islamic teachings finds elucidation in various hadiths. One such instance, narrated in Hadith No. 5122 of Bukhari, involves Abdullah bin Umar recounting an incident regarding his sister Hafshah bint Umar. When Hafshah was widowed, Umar bin Al Khattab offered her hand in marriage to Uthman, who declined the proposal. Umar then extended the offer to another companion, Abu Bakr, who remained silent, declining to respond. Umar, feeling indignant, later expressed his displeasure to Abu Bakr. However, a few days later, the Prophet Muhammad himself proposed to marry Hafshah.

Following the Prophet's proposal, Umar married his daughter to the Prophet. Subsequently, Abu Bakr approached Umar and explained his

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<sup>20</sup> Aminah Umar Al-Kharrath, *Sayyidah Hafsah* (Jakarta: Tinta Medina, 2018).

<sup>21</sup> Al-Kharrath.

silence, stating that he refrained from accepting the offer due to having previously heard the Prophet mention Hafshah's name in confidence. Therefore, out of respect for the Prophet's trust, Abu Bakr resolved to keep the matter confidential, expressing his willingness to marry Hafshah had the Prophet not proposed.

This hadith illustrates the significance of maintaining confidentiality in Islamic ethics, as Abu Bakr prioritized safeguarding the Prophet's secret over his own personal interests. It underscores the importance of trustworthiness and discretion in preserving the sanctity of private matters, even within personal relationships.

In this hadith, Abu Bakr demonstrated exemplary behavior by choosing to preserve the Prophet's confidence regarding his interest in Hafshah, despite being offered her hand in marriage by Umar. This highlights Abu Bakr's deep respect for privacy and sense of responsibility towards safeguarding others' secrets. It underscores the Islamic principle emphasizing the importance of trustworthiness and confidentiality.

Essentially, maintaining confidentiality is intertwined with trust and responsibility in Islam. Breaching confidentiality or betraying trust is viewed as unethical and contrary to Islamic teachings. Abu Bakr's actions exemplify this principle, as he prioritized preserving the Prophet's secret over potentially satisfying Umar's proposal. This illustrates that in Islam, upholding confidentiality takes precedence over avoiding temporary conflicts or disappointments.<sup>22</sup>

This story exemplifies the significant importance of confidentiality and its integral role in fostering trust and responsibility within Islamic ethics. The hadith detailing Abu Bakr's knowledge of the Prophet's interest in Hafshah illustrates this principle vividly. Despite the potential for temporary conflict or misunderstanding, as evidenced by the tension between Abu Bakr and Umar, prioritizing the preservation of secrets takes precedence.

In Islam, maintaining confidentiality is not merely a matter of personal discretion but a fundamental ethical obligation. Breaching confidentiality or violating trust is regarded as unethical and contrary to Islamic teachings. Thus, safeguarding the secrets and privacy of others

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<sup>22</sup> Al-Kharrath.

emerges as a cornerstone of ethical conduct and responsibility within Islamic ethos.

In Taufiq's research, differences between Islamic law and positive law in Indonesia are elucidated across various dimensions, including their definitions, sources, lawmakers, legal subjects, and the nature of the law. Positive law is defined as legislation governing human-to-human or human-to-legal entity relations, whereas Islamic law is characterized by a system of obligations and prohibitions rather than specific statutes. This contrast is particularly evident in the treatment of confidentiality, highlighting a fundamental disparity between the two legal frameworks.<sup>23</sup>

On the other hand, in Imamia's study, confidentiality emerges as a foundational principle within positive ethics in Islam. Positive ethics, as explained, encompasses the ethical guidelines rooted in Islamic teachings. Here, confidentiality is regarded as a key component of ethical conduct, emphasizing the importance of preserving privacy and trust within interpersonal relationships.<sup>24</sup>

1. Truthfulness (*Ash-Shidiq*)

One of the praiseworthy and highly recommended attitudes in Islam is honesty. This attitude is something that must exist in human life. This is confirmed by the Word of Allah, "*O you who believe, fear Allah and speak the truth.*"<sup>25</sup>

2. Equality (*Al-Musawah*)

Equality must exist in a confidentiality contract so that each party gets the same benefits, otherwise it will only belong to one party. The implementation of the contract must be based on responsibility. This responsibility is not only to fellow humans but also before God. Therefore, minimizing the efforts of one party to do wrong to the

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<sup>23</sup> Taufiq, Mohammad. "Konsep dan Sumber Hukum: Analisis Perbandingan Sistem Hukum Islam dan Sistem Hukum Positif." *Istidlal: Jurnal Ekonomi dan Hukum Islam* 5, no. 2 (2021): 87-98.

<sup>24</sup> Imamia, Tsumma Lazuardini, Iswan Noor, and Asfi Manzilati. "The Disclosure Of Islamic Ethics in Islamic Banks." *WACANA, Jurnal Sosial dan Humaniora* 22, no. 1 (2019).

<sup>25</sup> Al Quran. *Al-Ahzab*, 33: 70

other party. so that in determining the terms and conditions of a contract or agreement, a party has an equal position.<sup>26</sup>

### 3. Justice and Truth (*Al-Adialah*)

The agreement that takes place must be carried out by maintaining justice, or in other words, both parties must be happy. Islam condemns every action that utilizes other people's property. This is explained in the words of Allah SWT, "*O you who believe, do not eat each other's property by false means, except by way of trade that is valid by mutual consent between you. and do not kill yourselves, surely Allah is Most Merciful to you.*"<sup>27</sup>

Additionally, in Husni's prior research, trustworthiness emerges as an Islamic concept frequently referenced within Indonesian societal contexts, particularly concerning the practice of confidentiality. Her study results reveal that a trustworthy individual is characterized by positive attributes such as reliability, accountability, honesty, and the capability to fulfill assigned duties. Furthermore, Husni's investigation delineated three distinct factors or components comprising the trustworthiness scale: integrity, task completion, and virtuous behavior, which encompasses the maintenance of confidentiality.<sup>28</sup>

## **Preserving the Confidentiality of IP Addresses: A Perspective on Personal Data Protection in Indonesia Through Islamic Principles**

### **A. IP Address Confidentiality Protection in Indonesian Positive Law**

Confidentiality is essentially privacy and a form of ability to defend one's life and personal affairs from the public, or control the flow of

<sup>26</sup> Saputri, Dika. "Advertising Pay Per Click (PPC) Dengan Google Adsense Perspektif Hukum Islam." *YUDISIA: Jurnal Pemikiran Hukum dan Hukum Islam* 9, no. 2 (2018): 257-271.

<sup>27</sup> Al Quran. *An-Nisa*, 4: 29.

<sup>28</sup> Husni, Desma. "Pengukuran Konsep Amanah dalam Pendekatan Kualitatif dan Kuantitatif." *Jurnal Psikologi* 43, no. 3 (2016): 194-206.

information about oneself.<sup>29</sup> In this regard, Article 28G paragraph (1) of the Constitution of the Republic of Indonesia implicitly states that everyone has the right to personal protection and the right to a sense of security, in this case including the protection of personal data. The Directorate General of Informatics Applications of the Republic of Indonesia, Samuel A. revealed that the protection of personal data has been explained and related to the 1945 Constitution Article 28G paragraph (1).<sup>30</sup> Samuel Warren and Louis D. Brandeis, as cited by Shinta Dewi, were the first to develop the concept of privacy rights. In his writing, he explained that:<sup>31</sup>

“Privacy is the right to enjoy life and the right to be left alone and this development of the law was inevitable and demanded of legal recognition”.

Although the right to privacy is not explicitly mentioned, Article 28G (1) has included privacy values in international human rights treaties, so it can be said to be constitutional regarding the guarantee of the right to privacy.<sup>32</sup> The data collected in digital big data is basically divided into two types, namely personal data and behavioral data.<sup>33</sup> The subject of privacy was first written about in 1980 by two Americans, Warren and Brandeis in an article entitled "The right to privacy" in the Harvard Law Review, one

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<sup>29</sup> Al Hafizd, Daffa, Azi Asnawi, and Muhammad Fikri Assidiqie. "Kajian Kebijakan Keamanan Sistem Informasi Sebagai Bentuk Perlindungan Kerahasiaan Pribadi Karyawan Perusahaan BFI Finance." *Jurnal Sains dan Teknologi (JSIT)* 3, no. 1 (2023): 95-100.

<sup>30</sup> Manurung, Evelyn Angelita Pinondang, and Emmy Febriani Thalib. "Tinjauan Yuridis Perlindungan Data Pribadi Berdasarkan Uu Nomor 27 Tahun 2022." *Jurnal Hukum Saraswati (JHS)* 4, no. 2 (2022): 139-148.

<sup>31</sup> Shinta Dewi, *Cyberlaw Perlindungan Privasi Atas Informasi Pribadi dalam E-Commerce Menurut Hukum Internasional* (Bandung: Widya Padjadjaran, 2009).

<sup>32</sup> Mardiana, Nela, and A. Meilan. "Urgensi Perlindungan Data Pribadi dalam Prespektif Hak Asasi Manusia." *Jurnal Rechten: Riset Hukum dan Hak Asasi Manusia* 5, no. 1 (2023): 16-23.

<sup>33</sup> N. Kurnia and S Amalinda, *Big Data Untuk Ilmu Sosial: Antara Metode Riset dan Realitas Sosial* (Yogyakarta: Gadjah Mada University Press, 2023).

of their descriptions is "The right to be alone".<sup>34</sup> Each country uses different terms, the terms used are personal information or personal data, but in meaning these two mentions have similar meanings so that the two terms are often used interchangeably.<sup>35</sup> Historically, the right to privacy is a universal concept that has been recognized by the majority of individuals, whether it is written in the form of legal regulations or not written in moral regulations.<sup>36</sup> Therefore, the concept of data protection is highly relevant to individual privacy.

Personal data is all individual data through electronic and/or non-electronic systems, whether identified and/or independently identifiable, combined with other information, directly or indirectly.<sup>37</sup> The nomenclature of personal data is contained in Article 1 point 1 of the Regulation of the Minister of Communication and Informatics of the Republic of Indonesia No. 20/2016, which reads "Personal data is certain individual data that is stored, maintained, and kept correct and protected confidential". The definition of personal data is also contained in the Law No. 37 of 2022, which reads "Personal data is data about an identified or identifiable individual individually or in combination with other information either directly or indirectly through electronic or non-electronic systems". The scope of personal rights is also implicitly contained in Article 29 paragraph (1), Article 30, Article 31, Article 32 of the Human Rights Law. Broadly speaking, these four articles reveal that the scope of personal rights in Indonesia includes all personal information, family, honor, and personal property; doing or not doing something;

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<sup>34</sup> J Smiths, *Komputer: Suatu Tantangan Baru di Bidang Hukum* (Surabaya: Airlangga University Press, 1991).

<sup>35</sup> Samin, Herol Hansen. "Perlindungan Hukum Terhadap Kebocoran Data Pribadi oleh Pengendali Data Melalui Pendekatan Hukum Progresif." *Jurnal Ilmiah Research Student* 1, no. 3 (2024): 1-15.

<sup>36</sup> Niffari, Hanifan. "Perlindungan Data Pribadi Sebagai Bagian dari Hak Asasi Manusia Atas Perlindungan Diri Pribadi (Suatu Tinjauan Komparatif dengan Peraturan Perundang-Undangan di Negara Lain)." *Jurnal Yuridis* 7, no. 1 (2020): 105-119.

<sup>37</sup> Fikri, Muhammad, and Abdurrakhman Alhakim. "Urgensi Pengaturan Hukum Terhadap Pelaku Tindak Pidana Pencurian Data Pribadi di Indonesia." *YUSTISI* 9, no. 1 (2022): 1-13.

private residence; and private communication.<sup>38</sup> In addition, the legal scope of personal data protection is very broad ranging from the types, principles, rights and obligations of the subject, the obligations of the data controller as well as the data processor, data transmission across the borders of other countries, sovereignty, data protection officer, data protection authority, as well as how to resolve disputes and sanctions for violators of the law.<sup>39</sup>

Personal data and confidentiality (*privacy*) are a unity that cannot be split into two parts. This is because personal data is interrelated with privacy, when talking about personal data owned by someone, indirectly it also talks about the privacy of that person which must be protected and respected.<sup>40</sup> Confidentiality in this case must also be embodied in the protection of the IP Address as public personal data.

IP Address is a series of numbers that become the identity of the device and is connected to the internet or other network infrastructure that has a function so that every device that uses an internet connection can contact each other.<sup>41</sup> IP Address is used to identify and direct data traffic between devices in a computer network.<sup>42</sup> IP Address is used as a host identification tool or interface on the network.<sup>43</sup> IP Addresses are used as addresses assigned to computer networks and network equipment that use

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<sup>38</sup> Fikri, Muhammad, and Shelvi Rusdiana. "Ruang Lingkup Perlindungan Data Pribadi: Kajian Hukum Posistif Indonesia." *Ganesha Law Review* 5, no. 1 (2023): 39-57.

<sup>39</sup> Fikri and Rusdiana.

<sup>40</sup> Arthawijaya, Andhika, Stefanus Laksanto Utomo, and Benjamin L. Luntungan. "Analisis Hukum Undang-Undang No. 27 Tahun 2022 Tentang Pelindungan Data Pribadi (Putusan No. 597/Pid. Sus/2021/Pn. Jkt. Pst)." *Hukum dan Demokrasi (HD)* 24, no. 1 (2024): 1-10.

<sup>41</sup> Arifin, Samsul. "Implementasi Monitoring Jaringan Menggunakan Raspberry Pi Dengan Memanfaatkan Protokol SMTP (Simple Mail Transfer Protocol)." *JATI (Jurnal Mahasiswa Teknik Informatika)* 1, no. 1 (2017): 173-179.

<sup>42</sup> Hartono, Salim, Kriesna Yunan, and Bheta Agus Wardijono. "Implementasi Vlan Cisco Untuk Pengaturan Hak Akses Pada Jaringan Komputer Sekolah." *Prosiding Seminar SeNTIK7*, no. 1 (2023).

<sup>43</sup> Warsun Najib, *Panduan Praktikum Jaringan Komputer: Laboratorium Jaringan Komputer dan Aplikasi Terdistribusi* (Yogyakarta: Gajah Mada University Press, 2023).



the TCP/IP (Transmission Control Protocol/Internet Protocol) protocol. TCP/IP is a group of protocols that regulate computer data communication on the internet.<sup>44</sup> Every computer connected to the internet must at least have an IP address on every device connected to the internet and the IP address itself must be unique because no other computer/server/network device can use the same IP address on the internet. An IP address version 4 (IPv4) is a string of binary numbers 32 bits long that is used to identify devices on the network. An IP address is a 32-bit number separated by a period every 8 bits. Usually in use, IP addresses are written in four decimal numbers, each separated by a period.<sup>45</sup>

In general, IP Address is divided into two types, namely Private IP Address and Public IP Address. Public IP Address is an IP Address that can be accessed on the internet. Public IP Address is also known as a unicast IP address that can be routed globally. When a device has a Public IP Address and is connected to the internet, this device can also be accessed from anywhere via the internet. While Private IP Address is an IP Address that is used for local networks. Private IP is not available on the internet and cannot be accessed on the internet. In its implementation on a real network, a local area network uses a private IP address.<sup>46</sup>

This IP address itself can change depending on its condition. If a device is connected to Wi-Fi provided by a smartphone, then your public IP is assigned by the ISP. The obtained public IP address can change unpredictably based on network traffic conditions.<sup>47</sup> However, if you switch to a cellular network, you will have a different IP than the one assigned by your telecommunications operator. Furthermore, when

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<sup>44</sup> Arifin Hasnul, *Kitab Suci Jaringan Komputer Dan Koneksi Internet* (Yogyakarta: Mediakom, 2011).

<sup>45</sup> Edi Winarno and Ali Zaki, *Web Programming Dengan Visual Basic* (Jakarta: PT. Elex Media Komputindo, 2010).

<sup>46</sup> Mustaqim, Tengku Muhammad Wahyu. "Implementasi Managemen Bandwidth Menggunakan Metode Queue Tree di PT. Jawa Pos National Network Medialink (Cabang Karimun)." *JURNAL TIKAR* 3, no. 2 (2022): 118-130.

<sup>47</sup> Sukendar, Toni. "Keseimbangan Bandwidth Dengan Menggunakan Dua ISP Melalui Metode Nth Load Balancing Berbasis Mikrotik." *Jurnal Teknik Komputer AMIK BSI* 3, no. 1 (2017): 86-92.

connected through a router, you will only have a dynamic public IP address. However, because your internet activity is identified by a single public IP address, all the devices in your network can be under the same static IP depending on the configuration issue.<sup>48</sup>

The IP address itself is important to be kept confidential for internet users. There are several reasons why it is important to provide protection for the IP address. This is because someone's IP address can be used to track web activity by the Internet Service Provider (ISP), track browsing history, and track geographic location.<sup>49</sup> Furthermore, if someone knows another person's IP address, they can try to connect to that device. Therefore, it is important to provide protection for someone's IP address.

Indonesia has adopted the personal data protection rules from the General Data Protection Regulation (GDPR) of the European Union. Under the GDPR, companies are required to treat online identifiers and location data as personal data [Article 4(1)]. This means that information used by advertisers and websites to track online activities such as cookies, device identifiers, and internet protocol addresses are entitled to the same level of protection as personal data. Such information can reveal someone's online activities and searches, particularly when combined with other data held by the company.<sup>50</sup> From traffic anomalies, the location of the source of the anomaly and the destination of the anomaly can be identified via the IP address.<sup>51</sup>

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<sup>48</sup> Rooney, Timothy. *Introduction to IP Address Management*. (New York: John Wiley & Sons, 2010).

<sup>49</sup> CNBC Indonesia, "Penting! Ini 5 Alasan Anda Harus Sembunyikan Alamat IP", *CNBC Indonesia*, June 15, 2022. Retrieved from <https://www.cnbcindonesia.com/tech/20220615130341-37-347281/penting-ini-5-alasan-anda-harus-sem-bunyikan-alamat-ip>;

<sup>50</sup> Human Rights Watch, "The EU General Data Protection Regulation", *Human Rights Watch*, June 6, 2018. Retrieved from <https://www.hrw.org/news/2018/06/06/eu-general-data-protection-regulation>

<sup>51</sup> Masitoh Indriani, "Dicari: Otoritas Pengawas Perlindungan Data Pribadi!", *UNAIR News*, April 25, 2022. Retrieved from <https://unair.ac.id/dicari-otoritas-pengawas-perlindungan-data-pribadi/>. See also Khansa, Farah Naurah. "Penguatan Hukum dan Urgensi Otoritas Pengawas Independen dalam Pelindungan Data Pribadi di Indonesia." *Jurnal Hukum Lex Generalis* 2, no. 8 (2021): 649-662; Mahardika, Ahmad Mahardika. "Desain Ideal Pembentukan Otoritas Independen

The regulations contained in Article 14 paragraph (2) and Article 32 of Law No. 39 of 1999 concerning Human Rights indicate that there is a balance between the right to obtain (search, obtain and store) and convey information, with the right to have it acknowledged. confidentiality in communications including personal data to store information, especially relating to someone's personal information. It can be concluded that the guarantee for the recognition of a person's right to privacy in Article 32 of the Human Rights Law is primarily in the protection of a person's personal information and data. Meanwhile, Government Regulation Number 82 of 2012 concerning the Implementation of Electronic Systems and Transactions, explains in Article 1 paragraph (27) that personal data is certain individual data that is stored, maintained and maintained as true and protected as confidential.<sup>52</sup> In this definition, apart from explaining what personal data is, there is also a mandate to protect the confidentiality of personal data.<sup>53</sup> One form of protected data is electronic information. In addition, article 9 paragraph (1) regulates that electronic system operators are obliged to guarantee the confidentiality of the software source code used.

However, there are no further regulations regarding the protection of personal data regarding IP addresses as a type of general personal data as regulated in Article 4 paragraph (3) letter f of Law no. 27 of 2022 after the issuance of the Law. Especially in terms of realizing the principle of confidentiality as regulated in Article 3 letter h, further regulations are needed to be able to provide limitations and implementation of this protection in cyberspace. This is a protection that needs to be provided, considering that IP addresses can be used by digital and computer experts to track browsing history, track geographic location, as well as obtain information that tracks online activities such as cookies, and identify

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Perlindungan Data Pribadi dalam Sistem Ketatanegaraan Indonesia." *Jurnal Hukum* 37, no. 2 (2021): 101-118; Faizah, Azza Fitrahul, et al. "Penguatan Pelindungan Data Pribadi Melalui Otoritas Pengawas di Indonesia Berdasarkan Perbandingan Hukum Hong Kong dan Singapura." *Hakim* 1, no. 3 (2023): 1-27.

<sup>52</sup> Raihan, Muhammad. "Perlindungan Data Diri Konsumen dan Tanggungjawab Marketplace Terhadap Data Diri Konsumen (Studi Kasus: Kebocoran Data 91 Juta Akun Tokopedia)." *Jurnal Inovasi Penelitian* 3, no. 10 (2023): 7847-7856.

<sup>53</sup> Raihan.

devices. This data leak is very vulnerable to misuse, which can lead to several cases of other criminal acts.<sup>54</sup>

The rapid development of the times means that all aspects of technology are developing rapidly. The era of computerization development continued and developed until the 1990s, giving birth to various technologies. As technology develops, the abilities and methods used by hackers also become more sophisticated. They continually learn and adapt to new technologies to find security gaps. Even though currently law enforcers (police and Civil Servant Investigators/PPNS Ministry of Communication and Information Technology) have collaborated with several website/homepage managers outside Indonesian territory, in practice it is not easy to obtain the IP address of a perpetrator suspected of committing a crime using certain website/homepage services.

Legal protection of a person's IP address is necessary because an IP address is public personal data and can be used to identify a person. Collaboration between various parties is very important in efforts to overcome IP protection in the digital era.<sup>55</sup> Digital identity has achieved increasing significance in the sphere of everyday life. This phenomenon is related to the increasing intensity of both private and public activities which now increasingly involve software applications accessed via mobile phones or personal devices.<sup>56</sup> Remembering Government Regulation no. 82 of 2012 concerning the Implementation of Electronic Systems and Transactions provides the nomenclature of personal data as certain

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<sup>54</sup> Tsamara, Nadiah. "Perbandingan Aturan Perlindungan Privasi Atas Data Pribadi Antara Indonesia dengan Beberapa Negara." *Jurnal Suara Hukum* 3, no. 1 (2021): 53-84.

<sup>55</sup> Silvana Juliant, "Perlindungan HKI dalam Era Digital: Tantangan dan Peluang", *Limadetik Online*, June 23, 2023. Retrieved from <https://limadetik.com/perlindungan-hki-dalam-era-digital-tantangan-dan-peluang/>. See also Sianipar, Erick Alfredo, and Putri Aisyah. "Perlindungan Hak Kekayaan Intelektual dalam Era Digital: Tantangan dan Solusi Hukum." *Judge: Jurnal Hukum* 3, no. 2 (2022): 62-65; Bangsawan, Gema. "Kebijakan Akselerasi Transformasi Digital di Indonesia: Peluang dan Tantangan untuk Pengembangan Ekonomi Kreatif." *Jurnal Studi Kebijakan Publik* 2, no. 1 (2023): 27-40.

<sup>56</sup> Hartono, Julienna, et al. "Failing to Protect Personal Data: Key Aspects of Electronic System Operators'™ Agreements." *Bareleng Journal of Legal Studies* 1, no. 1 (2023): 31-55.

individual data that is stored, maintained and maintained correctly and protected confidentially, so it is important to provide protection.<sup>57</sup> In addition, Minister of Communication and Information Regulation No. 20 of 2016 concerning Protection of Personal Data in Electronic Systems Article 21 explains that displaying, announcing, sending, disseminating and/or making access to personal data in electronic systems can be done if with approval accompanied by verification of accuracy and suitability for the purpose of obtaining and collecting the personal data.<sup>58</sup> This is in line with the mandate of Article 26 paragraphs (1) and (2) of Law Number 19 of 2016 concerning Electronic Information and Transactions which states that the use of any person's personal information via electronic media must be obtained from the permission of the person concerned.<sup>59</sup> It is feared that this kind of privacy violation is not only limited to threats but can be ongoing and lead to other criminal acts, such as murder, assault, theft, robbery and so on.<sup>60</sup>

## **B. Confidentiality Protection for IP Addresses as a Form of Personal Data Protection in Indonesia Based on the Rules of the Islamic Religion**

When viewed from the general provisions for managing the confidentiality of personal data from the perspective of Islamic rules in accordance with *qashdu al-syari' fi wadh'i al-syari'ah*, namely God's

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<sup>57</sup> Shofiyah, Erni Nur, and Indri Fogar Susilowati. "Penyalahgunaan Data Pribadi Penerima Pinjaman dalam Peer To Peer Lending." *Novum: Jurnal Hukum* 6, no. 2 (2019): 1-6.

<sup>58</sup> *Ibid.*

<sup>59</sup> Anggitafani, Rachma Fadila. "Perlindungan Hukum Data Pribadi Peminjam Pinjaman Online Perspektif POJK No. 1/POJK. 07/2013 Tentang Perlindungan Konsumen Sektor Keuangan dan Aspek Kemaslahatan." *Journal of Islamic Business Law* 5, no. 2 (2021): 55-72.

<sup>60</sup> Pratama, Geistiar Yoga, and Aminah Suradi. "Perlindungan Hukum Terhadap Data Pribadi Pengguna Jasa Transportasi Online dari Tindakan Penyalahgunaan Pihak Penyedia Jasa Berdasarkan Undang-Undang Nomor 8 Tahun 1999 Tentang Perlindungan Konsumen." *Diponegoro Law Journal* 5, no. 3 (2016): 1-19.

purpose in laying down sharia, the responsibility of electronic system administrators has been supervised and is a dzari'ah that Its benefits are stronger than its mafsadat.<sup>61</sup> Islam views confidentiality as something that must be respected because it is related to a person's privacy.<sup>62</sup> In the growth of the educational concept of Sa'id Hawwa, Rasulullah SAW. maintain them by keeping secrets, because this will bring goodness to someone for the present or the future. Likewise, it will bring safety and goodness to the family and maintain community cleanliness. Someone who is used to keeping secrets will grow up to have a strong will, be steadfast and steadfast. Their words are protected, thus creating a culture of mutual trust in society, because some keep the secrets of others.<sup>63</sup> In fact, the Qur'an emphasizes the priority of privacy as stated by Allah SWT in Q.S. An-Nur verse 27 which means:<sup>64</sup>

O believers! Do not enter any house other than your own until you have asked for permission and greeted its occupants. This is best for you, so perhaps you will be mindful. (An-Nur: 27)

With the word of Allah SWT in the Qur'an Surah An-Nur Verse 27, there is relevance in ordering believers before entering one's house to say greetings and ask for permission first, meaning that Allah through His word in Surah An-Nur has given protection or limits for believers in engaging in relationships and social activities.<sup>65</sup> This verse instructs a believer to respect other people's privacy, by not entering other people's private areas without permission. This reflects the value of honor and

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<sup>61</sup> Hambali, Hasanuddin. "Kedudukan Al-Dzari'ah Dalam Hukum Islam." *Al Qalam* 11, no. 63 (1997): 10-19.

<sup>62</sup> Baiq, Parida Angriani. "Perlindungan Hukum terhadap Data Pribadi dalam Transaksi E-Commerce: Perspektif Hukum Islam dan Hukum Positif." *DIKTUM: Jurnal Syariah Dan Hukum* 19, no. 2 (2021): 149-165.

<sup>63</sup> Awaliyah, Tuti, and Nurzaman Nurzaman. "Konsep Pendidikan Akhlak Menurut Sa'id Hawwa." *Jurnal Penelitian Pendidikan Islam* 6, no. 1 (2018): 23-38.

<sup>64</sup> Al Quran. *An-Nur*, 24: 27

<sup>65</sup> Baiq, "Perlindungan Hukum terhadap Data Pribadi dalam Transaksi E-Commerce: Perspektif Hukum Islam dan Hukum Positif."

etiquette in interactions.<sup>66</sup> This is in line with regulations regarding the protection of a person's personal data which can only be accessed if permission is obtained from the party concerned.

Protection of a person's IP address needs to be provided because it can be a means of tracking a person's surfing history in cyberspace. This needs to be clarified in more depth regarding the form of protection and protection mechanisms provided, considering that the need and desire to protect privacy is universal and applies to everyone.<sup>67</sup>

By knowing someone's IP address, digital experts can track someone's browsing information. Tracking someone's browsing information is an action that does not ask for permission and does not convey greetings to the occupant. As Allah says in the Qur'an verse surah An-Nur verse 27, Allah SWT commands Muslims not to enter a house that is not their home without asking permission and greeting the occupants. The act of accessing another person's computer/electronic system without permission (*against the law*) can be equated with entering a house without permission because both have the same *illat*, namely without permission.<sup>68</sup>

In this verse it is explained that a Mu'min is prohibited from entering a house/yard without the owner's permission, because the house itself holds secrets, has two sides, the social side and also the personal side.<sup>69</sup> This has something to do with Privacy. In the context of this case, it can be seen that there is a common thread between hacking/hacking a website and entering the site without permission, because on the website there is data that is kept confidential, and anyone who enters the website system

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<sup>66</sup> Muchtar, Ilham, et al. "Analisis Prinsip Komunikasi Islami dalam Membangun Keluarga Harmonis Menurut Alqur'an." *Ulil Albab: Jurnal Ilmiah Multidisiplin* 2, no. 10 (2023): 4705-4720.

<sup>67</sup> Islamy, Imam Teguh, et al. "Pentingnya Memahami Penerapan Privasi di Era Teknologi Informasi." *Jurnal Teknologi Informasi dan Pendidikan* 11, no. 2 (2018): 21-28.

<sup>68</sup> Nugroho, Irzak Yuliardy. "Sanksi Hukum Kejahatan Peretasan Website Presiden Republik Indonesia." *Al-Daulah: Jurnal Hukum Dan Perundangan Islam* 5, no. 1 (2015): 171-203.

<sup>69</sup> Yayasan Penyelenggara Penterjemah Departemen Agama RI, *Al-Qur'an dan Terjemahnya* (Jakarta: Proyek Pengadaan Kitab Suci Al-Qur'an, 1971).

without permission or without legal authority/access can it is said that someone is breaking the law, according to the explanation of Article 30 Paragraph 1 of the Law on Information and Electronic Transactions. With the fulfillment of the pillars of qiyas, the punishment for people who access other people's computers/electronic systems without permission (against the law) can be the same as entering a house without permission.<sup>70</sup>

Apart from that, by knowing a person's IP address, a digital expert can also use this to track a person's geographic location. Based on the IP Address, information can be obtained to track the user's location.<sup>71</sup> Islamic rules summarized in *fiqh jinayah* and *fiqh mu'amalah* strictly prohibit violations of privacy, trust, theft and breaking promises. This is based on the propositions of the Qur'an (Surah An-Nisa: verse 24, Surah An-Nisa: verse 58, Surah Al-Anfal: verse 27, Surah Al-Maidah: verse 38, Surah An-Nur: verse 27, and Surah Al-Hujurat: verse 12).

Furthermore, safeguarding an individual's IP address is imperative due to its susceptibility to exploitation by hackers seeking to gather data for tracking online activities and identifying devices. Such exploitation often capitalizes on the perpetrator's comprehension of computer functionality, constituting a form of Cyber Espionage. This criminal activity employs internet networks to conduct espionage against targeted parties by infiltrating their computer network systems. Additionally, Sabotage and Extortion represent crimes involving the disruption, damage, or destruction of data, computer programs, or internet-connected network systems.

In the context of espionage, there exists a notable ijtihad from Imam Ibn Uthaymeen, who addressed a query concerning individuals installing surveillance devices to monitor their spouses. Imam Ibn Uthaymeen's response serves as a pertinent reference:<sup>72</sup>

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<sup>70</sup> Yayasan Penyelenggara Penterjemah Departemen Agama RI.

<sup>71</sup> Della Safitri, Rahma. "Sistem Pesan Pemberitahuan Berbasis Web melalui Penargetan Lokasi IP Pengguna." *Jurnal Pendidikan dan Konseling (JPDK)* 5, no. 1 (2023): 4647-4658.

<sup>72</sup> Asrudi, Asrudi and Zulhas'ari Mustafa. "Analisis Hukum Islam dan Hukum Positif Tentang Tindakan Aparat Negara Melakukan Spionase Terhadap Warga Negara". *Shautuna: Jurnal Ilmiah Mahasiswa Perbandingan Mazhab* 3, no. 1 (2022): 13-24.



“I think this includes *tajassus*. And it is not permissible for anyone to commit *tajassus* to fellow Muslims. Because what we can pay attention to is only the external part.” (Fatawa al-Liqa’ as-Syahri, No. 50).

In this statement from Fatawa al-Liqa' as-Syahri, Imam Ibn Uthaymeen addresses the concept of *tajassus* (espionage), which refers to the act of spying or prying into the affairs of others without their permission. He emphasizes that committing *tajassus*, especially among fellow Muslims, is impermissible in Islam.<sup>73</sup>

Imam Ibn Uthaymeen's rationale for this ruling is rooted in the principle that Muslims should only concern themselves with what is evident or apparent, referring to the external behavior or actions of others. Delving into someone's private matters or attempting to uncover hidden aspects of their lives without valid reasons is considered invasive and disrespectful of their privacy rights.

By prohibiting *tajassus*, Imam Ibn Uthaymeen underscores the importance of upholding the privacy and dignity of individuals within the Muslim community. This ruling aligns with broader Islamic principles of respecting others' autonomy, safeguarding their personal information, and fostering trust and harmony within society.

## Conclusion

In conclusion, the integration of Islamic laws into Indonesian data protection laws represents a multifaceted endeavor encompassing both regulatory landscape analysis and ethical considerations. Through an examination of various sources, including the Quran, Hadith, fiqh, and scholarly interpretations, we have observed the foundational principles of confidentiality, privacy, and trust inherent within Islamic teachings. While Indonesian data protection laws, such as Law Number 27 of 2022, may

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<sup>73</sup> See also Amri, Yaser. "Tajassus in The Qur'an: Implementation, Laws, and Deviations." *Jurnal At-Tibyan: Jurnal Ilmu Alqur'an dan Tafsir* 8, no. 1 (2023): 1-19; Khan, Md Zubair Kasem, and Md Abdul Jalil. "E-Surveillance Vis-À-Vis Privacy Rights: An Analysis of Western and the Shari'ah Perspectives." *European Journal of Business and Management* 8, no. 4 (2016): 89-101.

not explicitly address all aspects of Islamic principles regarding data privacy and confidentiality, the underlying ethos remains pertinent. The ethical imperative to uphold confidentiality and respect individuals' privacy rights resonates with Islamic values and serves as a guiding framework for legislative and regulatory efforts.

The essence of confidentiality within Islamic teachings extends beyond legal mandates, emphasizing the importance of trust and responsibility in safeguarding personal information. This ethical foundation enriches data protection laws by promoting cultural sensitivity and ensuring alignment with societal norms.

## References

- Admiral, Admiral, and Mega Ardina Pauck. "Unveiling the Dark Side of Fintech: Challenges and Breaches in Protecting User Data in Indonesia's Online Loan Services." *Lex Scientia Law Review* 7, no. 2 (2023): 995-1048.
- Al Hafizd, Daffa, Azi Asnawi, and Muhammad Fikri Assidiqie. "Kajian Kebijakan Keamanan Sistem Informasi Sebagai Bentuk Perlindungan Kerahasiaan Pribadi Karyawan Perusahaan BFI Finance." *Jurnal Sains dan Teknologi (JSIT)* 3, no. 1 (2023): 95-100.
- Albaar, Ragwan. "The Principle of Confidentiality in Islamic Guidance and Counseling: A Review of Hadith." *Jurnal Bimbingan dan Konseling Islam* 12, no. 2 (2022): 184-207.
- Ali, H Zainuddin. *Hukum Islam: Pengantar Ilmu Hukum Islam Di Indonesia* (Jakarta: Sinar Grafika, 2022).
- Al-Kharrath, Aminah Umar. *Sayyidah Hafshah* (Jakarta: Tinta Medina, 2018).
- Amri, Yaser. "Tajassus in The Qur'an: Implementation, Laws, and Deviations." *Jurnal At-Tibyan: Jurnal Ilmu Alqur'an dan Tafsir* 8, no. 1 (2023): 1-19.
- Anggitafani, Rachma Fadila. "Perlindungan Hukum Data Pribadi Peminjam Pinjaman Online Perspektif POJK No. 1/POJK. 07/2013 Tentang Perlindungan Konsumen Sektor Keuangan dan Aspek

- Kemaslahatan." *Journal of Islamic Business Law* 5, no. 2 (2021): 55-72.
- Annan, Alaikha. "Tinjauan Yuridis Perlindungan Data Pribadi Pada Sektor Kesehatan Berdasarkan Undang-Undang No. 27 Tahun 2022." *Synergy: Jurnal Ilmiah Multidisiplin* 1, no. 4 (2024): 247-254.
- Arifin, Samsul. "Implementasi Monitoring Jaringan Menggunakan Raspberry Pi Dengan Memanfaatkan Protokol SMTP (Simple Mail Transfer Protocol)." *JATI (Jurnal Mahasiswa Teknik Informatika)* 1, no. 1 (2017): 173-179.
- Armayra, Miza, et al. "Manual dan Komputerisasi: Manakah Yang Lebih Efektif dalam Penerapan Siklus Akuntansi." *Akuntansi* 2, no. 2 (2023): 233-243.
- Arthawijaya, Andhika, Stefanus Laksanto Utomo, and Benjamin L. Luntungan. "Analisis Hukum Undang-Undang No. 27 Tahun 2022 Tentang Pelindungan Data Pribadi (Putusan No. 597/Pid. Sus/2021/Pn. Jkt. Pst)." *Hukum dan Demokrasi (HD)* 24, no. 1 (2024): 1-10.
- Asrudi, Asrudi and Zulhas'ari Mustafa. "Analisis Hukum Islam dan Hukum Positif Tentang Tindakan Aparat Negara Melakukan Spionase Terhadap Warga Negara". *Shautuna: Jurnal Ilmiah Mahasiswa Perbandingan Mazhab* 3, no. 1 (2022): 13-24.
- Awaliyah, Tuti, and Nurzaman Nurzaman. "Konsep Pendidikan Akhlak Menurut Sa'id Hawwa." *Jurnal Penelitian Pendidikan Islam* 6, no. 1 (2018): 23-38.
- Baiq, Parida Angriani. "Perlindungan Hukum terhadap Data Pribadi dalam Transaksi E-Commerce: Perspektif Hukum Islam dan Hukum Positif." *DIKTUM: Jurnal Syariah Dan Hukum* 19, no. 2 (2021): 149-165.
- Bangsawan, Gema. "Kebijakan Akselerasi Transformasi Digital di Indonesia: Peluang dan Tantangan untuk Pengembangan Ekonomi Kreatif." *Jurnal Studi Kebijakan Publik* 2, no. 1 (2023): 27-40.
- CNBC Indonesia, "Penting! Ini 5 Alasan Anda Harus Sembunyikan Alamat IP", *CNBC Indonesia*, June 15, 2022. Retrieved from <https://www.cnbcindonesia.com/tech/20220615130341-37-347281/penting-ini-5-alasan-anda-harus-sem-bunyikan-alamat-ip>;

- Della Safitri, Rahma. "Sistem Pesan Pemberitahuan Berbasis Web melalui Penargetan Lokasi IP Pengguna." *Jurnal Pendidikan dan Konseling (JPDK)* 5, no. 1 (2023): 4647-4658.
- Dewi, Shinta. *Cyberlaw Perlindungan Privasi Atas Informasi Pribadi dalam E-Commerce Menurut Hukum Internasional* (Bandung: Widya Padjadjaran, 2009).
- Dinanti, Dinda, et al. "Politics of Law for the Protection of Debtors as Consumers in Fintech based Loaning Services." *Unnes Law Journal* 6, no. 2 (2020): 427-444.
- Diniyanto, Ayon, and Heris Suhendar. "How Law Responds to Technological Development?." *Unnes Law Journal* 6, no. 2 (2020): 405-426.
- Faizah, Azza Fitrahul, et al. "Penguatan Pelindungan Data Pribadi Melalui Otoritas Pengawas di Indonesia Berdasarkan Perbandingan Hukum Hong Kong dan Singapura." *Hakim* 1, no. 3 (2023): 1-27.
- Farih, Amin. "Konsistensi Nahdlatul Ulama'dalam Mempertahankan Pancasila dan Kedaulatan Negara Kesatuan Republik Indonesia di tengah Wacana Negara Islam." *Jurnal Politik Walisongo* 1, no. 1 (2019): 1-20.
- Fikri, Muhammad, and Abdurrakhman Alhakim. "Urgensi Pengaturan Hukum Terhadap Pelaku Tindak Pidana Pencurian Data Pribadi di Indonesia." *YUSTISI* 9, no. 1 (2022): 1-13.
- Fikri, Muhammad, and Shelvi Rusdiana. "Ruang Lingkup Perlindungan Data Pribadi: Kajian Hukum Posistif Indonesia." *Ganesha Law Review* 5, no. 1 (2023): 39-57.
- Fiorentina, Prita, et al. "Legal Protection of Consumer Personal Data in Indonesia Fintech Peer-To-Peer Lending Pioneers." *Pandecta Research Law Journal* 17, no. 2 (2022): 307-312.
- Haganta, Raphael. "Legal Protection of Personal Data as Privacy Rights of E-Commerce Consumers Amid the Covid-19 Pandemic." *Lex Scientia Law Review* 4, no. 2 (2020): 77-90.
- Hambali, Hasanuddin. "Kedudukan Al-Dzari'ah Dalam Hukum Islam." *Al Qalam* 11, no. 63 (1997): 10-19.
- Hartono, Julienna, et al. "Failing to Protect Personal Data: Key Aspects of Electronic System Operators's™ Agreements." *Barelang Journal of Legal Studies* 1, no. 1 (2023): 31-55.

- Hartono, Salim, Kriesna Yunan, and Bheta Agus Wardijono. "Implementasi Vlan Cisco Untuk Pengaturan Hak Akses Pada Jaringan Komputer Sekolah." *Prosiding Seminar SeNTIK 7*, no. 1 (2023).
- Hasnul, Arifin. *Kitab Suci Jaringan Komputer Dan Koneksi Internet* (Yogyakarta: Mediakom, 2011).
- Hendri, Hendri, Suriyanto Suriyanto, and Resi Pranacitra. "Kepastian dan Perlindungan Hukum Terhadap Data Pribadi Pengguna Fintech Peer To Peer Lending." *Jurnal Ilmiah Universitas Batanghari Jambi* 23, no. 1 (2023): 848-854.
- Human Rights Watch, "The EU General Data Protection Regulation", *Human Rights Watch*, June 6, 2018. Retrieved from <https://www.hrw.org/news/2018/06/06/eu-general-data-protection-regulation>
- Husni, Desma. "Pengukuran Konsep Amanah dalam Pendekatan Kualitatif Dan Kuantitatif." *Jurnal Psikologi* 43, no. 3 (2016): 194-206.
- Imamia, Tsumma Lazuardini, Iswan Noor, and Asfi Manzilati. "The Disclosure Of Islamic Ethics in Islamic Banks." *WACANA, Jurnal Sosial dan Humaniora* 22, no. 1 (2019).
- Indriasari, Devi Tri, and Karman Karman. "Privacy, Confidentiality, and Data Protection: Ethical Considerations in the Use of the Internet." *International Journal of Islamic Education, Research and Multiculturalism (IJIERM)* 5, no. 2 (2023): 431-450.
- Islamy, Imam Teguh, et al. "Pentingnya Memahami Penerapan Privasi di Era Teknologi Informasi." *Jurnal Teknologi Informasi dan Pendidikan* 11, no. 2 (2018): 21-28.
- Juliant, Silvana. "Perlindungan HKI dalam Era Digital: Tantangan dan Peluang", *Limadetik Online*, June 23, 2023. Retrieved from <https://limadetik.com/perlindungan-hki-dalam-era-digital-tantangan-dan-peluang/>.
- Khan, Md Zubair Kasem, and Md Abdul Jalil. "E-Surveillance Vis-À-Vis Privacy Rights: An Analysis of Western and the Shari'ah Perspectives." *European Journal of Business and Management* 8, no. 4 (2016): 89-101.

- Khansa, Farah Naurah. "Penguatan Hukum dan Urgensi Otoritas Pengawas Independen dalam Pelindungan Data Pribadi di Indonesia." *Jurnal Hukum Lex Generalis* 2, no. 8 (2021): 649-662.
- Komaruddin, Koko, et al. "Islamic Perspectives on Cybersecurity and Data Privacy: Legal and Ethical Implications." *West Science Law and Human Rights* 1, no. 4 (2023): 166-172.
- Kurnia, N. and S Amalinda. *Big Data Untuk Ilmu Sosial: Antara Metode Riset dan Realitas Sosial* (Yogyakarta: Gadjah Mada University Press, 2023).
- Madjid, Nurcholish. *Mencari Akar-Akar Islam Bagi Pluralisme Modern: Pengalaman Indonesia*, Mizan (Bandung: Mizan, 1998).
- Mahardika, Ahmad Mahardika. "Desain Ideal Pembentukan Otoritas Independen Perlindungan Data Pribadi dalam Sistem Ketatanegaraan Indonesia." *Jurnal Hukum* 37, no. 2 (2021): 101-118.
- Manurung, Evelyn Angelita Pinondang, and Emmy Febriani Thalib. "Tinjauan Yuridis Perlindungan Data Pribadi Berdasarkan UU Nomor 27 Tahun 2022." *Jurnal Hukum Saraswati (JHS)* 4, no. 2 (2022): 139-148.
- Mardiana, Nela, and A. Meilan. "Urgensi Perlindungan Data Pribadi dalam Prespektif Hak Asasi Manusia." *Jurnal Rechten: Riset Hukum dan Hak Asasi Manusia* 5, no. 1 (2023): 16-23.
- Masitoh Indriani, "Dicari: Otoritas Pengawas Perlindungan Data Pribadi!", *UNAIR News*, April 25, 2022. Retrieved from <https://unair.ac.id/dicari-otoritas-pengawas-perlindungan-data-pribadi/>.
- Muchtar, Ilham, et al. "Analisis Prinsip Komunikasi Islami dalam Membangun Keluarga Harmonis Menurut Alqur'an." *Ulil Albab: Jurnal Ilmiah Multidisiplin* 2, no. 10 (2023): 4705-4720.
- Mustaqim, Tengku Muhammad Wahyu. "Implementasi Managemen Bandwidth Menggunakan Metode Queue Tree di PT. Jawa Pos National Network Medialink (Cabang Karimun)." *JURNAL TIKAR* 3, no. 2 (2022): 118-130.
- Nashirudin, Al-Albani M. *Ringkasan Shahih Bukhari*. (Yogyakarta: Gema Insani, 2003).

- Niffari, Hanifan. "Perlindungan Data Pribadi Sebagai Bagian dari Hak Asasi Manusia Atas Perlindungan Diri Pribadi (Suatu Tinjauan Komparatif dengan Peraturan Perundang-Undangan di Negara Lain)." *Jurnal Yuridis* 7, no. 1 (2020): 105-119.
- Norwawi, Norita Md, et al. "Promoting Islamic Ethics on Privacy in Digital Social Network For User Data Protection and Trust." *Ulūm Islāmiyyah Journal* 197, no. 1979 (2014): 1-23.
- Nugroho, Irzak Yuliardy. "Sanksi Hukum Kejahatan Peretasan Website Presiden Republik Indonesia." *Al-Daulah: Jurnal Hukum Dan Perundangan Islam* 5, no. 1 (2015): 171-203.
- Pratama, Geistiar Yoga, and Aminah Suradi. "Perlindungan Hukum Terhadap Data Pribadi Pengguna Jasa Transportasi Online dari Tindakan Penyalahgunaan Pihak Penyedia Jasa Berdasarkan Undang-Undang Nomor 8 Tahun 1999 Tentang Perlindungan Konsumen." *Diponegoro Law Journal* 5, no. 3 (2016): 1-19.
- Raihan, Muhammad. "Perlindungan Data Diri Konsumen dan Tanggungjawab Marketplace Terhadap Data Diri Konsumen (Studi Kasus: Kebocoran Data 91 Juta Akun Tokopedia)." *Jurnal Inovasi Penelitian* 3, no. 10 (2023): 7847-7856.
- Rooney, Timothy. *Introduction to IP Address Management*. (New York: John Wiley & Sons, 2010).
- Rosadi, Sinta Dewi. *Pembahasan UU Pelindungan Data Pribadi (UU RI No. 27 Tahun 2022)* (Jakarta: Sinar Grafika, 2022).
- Samin, Herol Hansen. "Perlindungan Hukum Terhadap Kebocoran Data Pribadi oleh Pengendali Data Melalui Pendekatan Hukum Progresif." *Jurnal Ilmiah Research Student* 1, no. 3 (2024): 1-15.
- Saputri, Dika. "Advertising Pay Per Click (PPC) Dengan Google Adsense Perspektif Hukum Islam." *YUDISIA: Jurnal Pemikiran Hukum dan Hukum Islam* 9, no. 2 (2018): 257-271.
- Sarabdeen, Jawahitha, and Mohamed Mazahir Ishak. "Compliance of Saudi Arabian Personal Data Protection Law 2021 to Islamic Principles of Privacy." *Migration Letters* 21, no. 4 (2024): 726-737.
- Sauri, Sofyan. "Membangun Karakter Bangsa Melalui Pembinaan Profesionalisme Guru Berbasis Pendidikan Nilai." *Jurnal Pendidikan Karakter* 2, no. 2 (2010): 1-15.

- Shofiyah, Erni Nur, and Indri Fogar Susilowati. "Penyalahgunaan Data Pribadi Penerima Pinjaman dalam Peer To Peer Lending." *Novum: Jurnal Hukum* 6, no. 2 (2019): 1-6.
- Sianipar, Erick Alfredo, and Putri Aisyah. "Perlindungan Hak Kekayaan Intelektual dalam Era Digital: Tantangan dan Solusi Hukum." *Judge: Jurnal Hukum* 3, no. 2 (2022): 62-65
- Smiths, J. *Komputer: Suatu Tantangan Baru di Bidang Hukum* (Surabaya: Airlangga University Press, 1991).
- Sukendar, Toni. "Keseimbangan Bandwidth Dengan Menggunakan Dua ISP Melalui Metode Nth Load Balancing Berbasis Mikrotik." *Jurnal Teknik Komputer AMIK BSI* 3, no. 1 (2017): 86-92.
- Suwondo, Denny. "The Legal Protection of Personal Data in Islamic Perspective." *International Journal of Law Reconstruction* 7, no. 2 (2021): 221-230.
- Taufiq, Mohammad. "Konsep dan Sumber Hukum: Analisis Perbandingan Sistem Hukum Islam dan Sistem Hukum Positif." *Istidlal: Jurnal Ekonomi dan Hukum Islam* 5, no. 2 (2021): 87-98.
- Tavaokkoli, Saeid Nazari, Nasrin NejadSarvari, and Ali Ebrahimi. "Analysis of medical confidentiality from the Islamic ethics perspective." *Journal of Religion and Health* 54 (2015): 427-434.
- Thohari Musnamar, *Dasar-Dasar Konseptual Bimbingan dan Konseling Islami* (Yogyakarta: Universitas Islam Indonesia Press, 2002).
- Tiara, Zalna, and Kukuh Tejomurti. "Efficiency of Implementation of Alternative Dispute Settlement for Fintech Lending Users." *Jurnal Scientia Indonesia* 8, no. 1 (2022): 37-52.
- Tsamara, Nadiyah. "Perbandingan Aturan Perlindungan Privasi Atas Data Pribadi Antara Indonesia dengan Beberapa Negara." *Jurnal Suara Hukum* 3, no. 1 (2021): 53-84.
- Umar, Mardan. "Urgensi Nilai-Nilai Religius dalam Kehidupan Masyarakat Heterogen di Indonesia." *Jurnal Civic Education: Media Kajian Pancasila dan Kewarganegaraan* 3, no. 1 (2019): 71-77.
- Utama, Sopyan Mei. "Eksistensi Hukum Islam dalam Peraturan Perundang-Undangan di Indonesia." *Jurnal Wawasan Yuridika* 2, no. 1 (2018): 58-68.



- Warsun Najib, *Panduan Praktikum Jaringan Komputer: Laboratorium Jaringan Komputer dan Aplikasi Terdistribusi* (Yogyakarta: Gajah Mada University Press, 2023).
- Wati, Sulistyowati Sulis, and Choirul Anam. "Implementasi Perlindungan Hukum terhadap Rahasia Data Nasabah dalam Perspektif Hukum Perbankan Islam (Studi Kasus Bank Muamalat Surabaya)." *Jurnal Lentera: Kajian Keagamaan, Keilmuan dan Teknologi* 20, no. 2 (2021): 303-320.
- Winarno, Edi and Ali Zaki, *Web Programming Dengan Visual Basic* (Jakarta: PT. Elex Media Komputindo, 2010).
- Yayasan Penyelenggara Penterjemah Departemen Agama RI, *Al-Qur'an dan Terjemahnya* (Jakarta: Proyek Pengadaan Kitab Suci Al-Qur'an, 1971).
- Zulhuda, Sonny. "Information security in the Islamic perspective: The principles and practices." *Proceeding of the 3rd International Conference on Information and Communication Technology for the Moslem World (ICT4M) 2010*. IEEE, 2010.

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