

# Digital Society and the Impact of Technological Change Adjusting the Legal System to Address Legal Challenges Arising from New Technologies and Globalization

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## ABSTRACT

The development of digital technology and globalization has had a significant impact on various aspects of life, including legal systems around the world. In Indonesia, rapid technological changes, such as the internet, artificial intelligence (AI), big data, and blockchain, pose new challenges that require adaptation in legal regulation. This research aims to explore the impact of technological change on the Indonesian legal system, and assess the extent to which the legal system needs to adapt to meet the challenges arising from technological development and globalization. The research identifies key legal issues, such as personal data protection, cybercrime, intellectual property rights, and regulatory differences between countries, which are increasingly complex in the digital era. The research method used is a qualitative approach with descriptive and exploratory analysis, which includes case studies as well as a review of applicable legal regulations in Indonesia. The results show that Indonesia's legal system requires updates and adjustments to face the legal challenges posed by technological developments, especially in terms of personal data protection, cybercrime countermeasures, and regulation of intellectual property rights in the digital world. The research also recommends the importance of international cooperation in handling cybercrime and the need for regulatory harmonization at the global level. The findings provide a strong basis for the development of legal policies that are more responsive to the dynamics of technological development, and lead to further research on the ethical implications of the use of artificial intelligence in legal decision-making.

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## 1. INTRODUCTION

Rapid technological change and globalization have become two major forces that are transforming the way we interact, do business and live our daily lives. Advances in digital technologies, such as the internet, artificial intelligence (AI) and big data, have opened up new opportunities in many areas of life, including the economy, education and healthcare. However, these advancements also pose significant legal challenges, requiring adjustments to existing legal systems to address the impacts of these new technologies. Globalization, which has accelerated connectivity between countries, also complicates legal issues as they are not only limited to the national scope, but also involve countries with different legal systems. In the legal context, key challenges arise in terms of regulating digital transactions across national borders, personal data protection, and cybersecurity regulations. For example, digital transactions that occur between countries often involve differences in legal

regulations between countries, which can hinder the effectiveness of dispute resolution. In addition, the issue of personal data privacy in cyberspace is increasingly dominating global attention. Countries around the world face difficulties in formulating effective laws to protect the personal data of their citizens, while technology companies operate globally without being bound by the laws of a particular country.

In addition, the phenomenon of globalization has further exacerbated the misalignment between domestic and international law in dealing with legal issues arising from technology. Issues such as intellectual property rights, which are linked to the digitization of content and global distribution, are also a major concern. Traditional legal systems are often unable to keep up with the rapid pace of technological development. Therefore, there is a need to adjust the legal system to enable the law to remain relevant in the face of such dynamic changes. On the other hand, technological advances also provide great opportunities to improve and increase the efficiency of the legal system. The use of technology for legal data processing, streamlining legal processes, and improving access to justice are positive examples of the impact of technology on the legal system. However, to capitalize on this potential, the legal system must also be prepared to address the challenges that arise. Technology can help speed up court proceedings, but there must be an appropriate legal framework to regulate its use, so that technology is not misused and still protects the rights of individuals.

At the same time, the legal challenges posed by technology and globalization range from personal data protection issues to legal ambiguities regarding international digital transactions. Existing regulations are often not fast enough to respond to these dynamics, leading to legal uncertainty and potential abuse. For example, while there are some regulations on personal data protection, their implementation is often limited to specific jurisdictions and does not involve enough international cooperation to address global issues. Not only that, the phenomenon of cybercrime, which encompasses all forms of crime committed through cyberspace, is also increasingly troubling. Many countries do not have strong enough laws to properly deal with cybercrime, while these crimes cross national borders. In some cases, criminals may hide in countries with weaker laws, while victims are in countries with stricter legal systems. This creates a challenge for countries to work together to tackle crimes involving technology.

On the other hand, existing international regulations have not been sufficient to unify different national laws in dealing with these issues. Therefore, there is a need to create a more harmonized international legal system governing digital transactions, data protection and intellectual property rights. A more coordinated international legal system will enable countries to more effectively address legal issues arising from technological globalization. This research aims to explore how legal systems can adapt to technological developments and the challenges posed by globalization. The main objective is to analyze the impact of new technologies, such as artificial intelligence, big data, and the internet, on legal policies at both the national and international levels. It will also identify steps that countries can take to adapt their laws to the changing times, as well as provide recommendations for the development of legal policies that are responsive to rapid technological developments.

The significance of this research lies in its relevance in the contemporary legal context. In the midst of rapid technological change, the law needs to adapt to ensure the protection of individual rights, social justice, and the efficiency of the legal system. This research is important because it can help policy makers, legal practitioners, and academics to better understand the challenges posed by technological development and globalization. As such, this research can provide useful insights for countries to formulate legal policies that can effectively protect the interests of society. In addition, the importance of this research also lies in its potential impact on shaping policies that are more inclusive and adaptive to technology. With the proliferation of digital technologies, such as blockchain, artificial intelligence, and big data, countries must ensure that they have legal frameworks that can handle the new challenges that arise. This research also aims to fill a gap in the existing literature, as there is still a lack of discussion regarding the adjustment of legal systems to technological developments and globalization.

This research is expected to make a real contribution in developing policies that are more responsive to the needs of the times. By taking into account the dynamics of globalization and technology, this research can also open up new discussions on the importance of international collaboration in formulating more effective global legal policies. In addition, the results of this

research are expected to help facilitate dialogue between stakeholders, including governments, technology entrepreneurs, and civil society, on how best to regulate technology within a fair legal framework. This research will focus on several key questions in an effort to understand the impact of technology and globalization on legal systems. First, how do developments in digital technologies, such as artificial intelligence, the internet and big data, affect legal policy at the global and domestic levels? This question is important to explore how states and international organizations regulate and respond to new technologies in their legal policies. It will also explore the extent to which existing legal systems are able to accommodate rapid technological advances.

The second question is, what are the main legal challenges that arise in the face of technological globalization, especially in the context of digital transactions and personal data protection? Technology enables transactions to quickly cross national borders, but differences in legal systems between countries often complicate dispute resolution and data protection. This question therefore aims to identify the legal challenges that states must face in creating policies that can effectively protect individual rights. Furthermore, how can the international legal system adapt to deal with legal issues related to new technologies and globalization, especially in the context of cybercrime and intellectual property rights? These issues increasingly involve multiple states and require closer international cooperation. This question will analyze how international law can be more effective in regulating problems arising from technology and how states can work together to deal with them. Finally, what steps do countries need to take to create legal policies that are responsive to technological developments and globalization? This question will explore concrete steps that policymakers can take to adapt their legal systems to the changing times, as well as how states can build a more cohesive legal framework at the global level to face increasingly complex challenges.

## 2. RESEARCH METHOD

This research uses a qualitative approach to explore an in-depth understanding of the impact of technological change and globalization on the legal system. The qualitative approach was chosen because this research aims to analyze complex issues related to technology, law, and globalization, which cannot be fully explained with numbers or statistics. This research is analytical in nature, as it not only describes existing phenomena, but also analyzes the relationship between these phenomena and their impact on legal policies and practices at the global and domestic levels. In addition, this research can also be classified as exploratory, because it aims to dig deeper into the legal challenges arising from technological advances and globalization, and find solutions that can be implemented by policy makers and legal practitioners. The research approach used is a case study and comparative analysis between countries. Case studies will be used to analyze real-life examples of countries facing legal challenges related to technology and globalization, such as issues related to international digital transactions, personal data protection, and cybercrime. The research will also conduct a comparative analysis between countries to see how countries with different legal systems deal with similar issues. For example, a comparison between countries that have implemented effective personal data protection policies, such as the European Union with its GDPR regulation, and countries that do not yet have a strong legal framework to deal with this issue. In addition, interviews with legal practitioners and technology experts will also be conducted to gain first-hand perspectives from those involved in the development of legal policies in this area.

The data sources used in this research consist of primary data and secondary data. Primary data will be obtained through interviews with legal practitioners, academics, policy makers, and technology experts who have experience or knowledge of the legal challenges arising from technological development and globalization. These interviews will provide more in-depth information on how these issues are dealt with at the practical and policy level. In addition, secondary data will be collected from relevant literature, such as journal articles, books, research reports, and international law policy documents. This secondary data will be used to explore existing theories and analysis related to existing legal regulations and policies in various countries regarding technology and globalization. In analyzing the data collected, this research will use content analysis and thematic analysis. Content analysis will be applied to policy documents, journal articles, and official reports to identify key patterns or themes relating to the legal challenges posed by new technologies and globalization. This analysis will help to explore how legal policies are developed, as well as how they are implemented and adapted in different countries. In addition, thematic analysis will be used to analyze interviews with legal practitioners and technology experts. With thematic analysis, interview

data will be grouped based on key themes that emerge, such as personal data protection, cross-border regulatory issues, and legal responses to cybercrime. This technique allows the researcher to identify patterns in the perspectives and solutions proposed by experts to the legal issues under study. This method of analysis will provide a clearer picture of how the legal system can adjust to meet the challenges posed by technology and globalization.

### **3. RESULTS AND DISCUSSIONS**

#### **3.1. Technology Change Impact Analysis**

The rapid development of digital technology, including the internet, artificial intelligence (AI), big data, and globalization, has had a significant impact on legal systems, both domestically and internationally. These technological advancements provide great opportunities to improve efficiency and accessibility, but also pose new challenges that legal systems need to address. These new technologies often move faster than the ability of legal systems to regulate and adapt, creating legal loopholes that can be exploited by irresponsible parties. Therefore, it is important to analyze how digital technologies affect the legal system and what challenges arise as a result.

##### **3.1.1. Internet and Cross-Border Transactions**

One of the biggest impacts of the internet is its ability to enable transactions and interactions that cross national boundaries. In a legal context, this creates significant challenges related to jurisdiction, international dispute resolution and cross-border regulation. For example, if someone commits an online transaction or cybercrime involving parties from several countries, it is difficult to determine which country has jurisdiction to handle the case. Domestic legal systems often lack adequate mechanisms to deal with these issues, while international legal systems have also not fully accommodated the complexity of the issues that arise. Without a clear legal framework, international transactions and dispute resolution can be hampered, and criminals can take advantage of legal differences between countries to avoid liability.

##### **3.1.2. Artificial Intelligence (AI) and Legal Security**

Artificial intelligence (AI) offers a lot of potential in improving the efficiency of the legal system, such as in terms of big data analysis, prediction of legal case outcomes, and automation of legal procedures. However, the use of AI also poses serious legal challenges. One of them is the issue of legal liability. For example, if an AI system makes a wrong decision or causes harm, who should be held liable? Is it the technology maker, the user, or the AI system itself? The current domestic legal system still lacks clear regulations on legal liability in the context of AI, which may result in legal uncertainty for individuals and companies. In addition, ethical issues related to the use of AI in decision-making, such as bias in algorithms or privacy violations, are also serious concerns that need to be regulated in the legal framework.

##### **3.1.3. Big Data and Personal Data Protection**

Big data enables the collection and analysis of large amounts of data that can be used for a variety of purposes, from market research to monitoring individual behavior. However, the use of big data poses major challenges in terms of personal data protection and privacy. In this context, domestic legal systems often lag behind in providing adequate protection to individuals. For example, many countries do not have strong enough regulations to protect their citizens' personal data from exploitation by big tech companies. While international regulations, such as the GDPR (General Data Protection Regulation) in the European Union, try to provide solutions, major challenges arise when personal data crosses national borders, given the differences in privacy policies between countries. This shows the importance of creating a global legal framework that can effectively regulate the use and protection of personal data.

##### **3.1.4. Globalization and Regulatory Inequality**

Globalization has accelerated the interconnection between countries, but it has also revealed gaps in legal regulation across countries. Multinational technology companies may operate in different countries subject to different legal systems, which often leads to misalignments in the protection of individual and societal rights. For example, issues related to copyright and intellectual property are increasingly complex in a globalized digital world, where products or works can be shared easily

around the world regardless of legal differences between countries. Without comprehensive international regulation, there is often confusion or legal uncertainty about how these rights should be protected in different jurisdictions. Furthermore, in the case of international cybercrime, it is often difficult to determine which country is responsible for enforcement, especially if the perpetrator is hiding in a country with weak legal policies.

### **3.1.5. Cybercrime and Cyber Security**

The development of digital technology has also led to the emergence of new threats in the form of cybercrime. Cybercrime involves a wide range of crimes, from hacking personal data to identity theft and financial fraud involving technology. While many countries have developed legislation to address cybercrime, existing laws are often insufficient to deal with the problems that arise from the rapid development of technology. One of the biggest challenges is the cross-border nature of these crimes. Cybercrime perpetrators often operate in a different country from the victim, creating difficulties in law enforcement. In addition, many countries do not yet have sufficient legal capacity to deal with increasingly sophisticated cybercrimes. This calls for closer international cooperation in law enforcement and more cohesive policy-making at the global level.

### **3.1.6. Domestic and International Law Misalignment**

New technologies also create misalignment between domestic and international law. At the domestic level, many countries do not yet have the right regulations in place to govern the issues arising from new technologies, while at the international level, global legal regulations are still limited. For example, in terms of regulations related to international digital transactions, some countries have very strict policies in regulating online transactions, while other countries have more lax regulations. This misalignment creates a major challenge in creating an effective international legal framework to address issues arising from technology. Therefore, there needs to be an effort to create harmony in legal regulations between countries in order to deal with the negative impacts of technology more effectively.

### **3.1.7. Ethical Implications and Social Justice**

In addition to technical and legal issues, the development of digital technologies also poses ethical and social justice challenges. For example, the use of AI algorithms in decision-making in areas such as job recruitment, the judicial system and bank lending can lead to discrimination or bias if not properly monitored. This could disadvantage certain individuals or groups, leading to social injustice. Therefore, it is important to develop regulations that govern the use of technology by taking into account social justice and ethical values, so that technology can be used to improve the welfare of society without causing harm or injustice to certain groups. Overall, the development of digital technologies, such as the internet, AI, big data, and globalization, brings significant challenges to domestic and international legal systems. While technology has great potential to improve efficiency and fairness, poorly regulated technology can pose serious problems that require special attention from policymakers. It is therefore important for legal systems to adapt quickly and effectively in order to address the challenges posed by these technological changes, as well as to ensure that technology is used fairly and responsibly.

## **3.2. Legal System Adjustment**

Rapid technological change demands adjustments to the legal system that are flexible and responsive to the new dynamics that emerge. It is not only about changing policies and regulations that must be updated, but also about rethinking how the law is applied in an increasingly digitally connected and globalized world. This involves overhauling old rules, creating new regulations, and strengthening international cooperation to address legal challenges arising from new technologies.

### **3.2.1. Policy Changes and New Regulations**

One of the first steps that needs to be taken to respond to technological change is the updating of policies and the creation of new regulations that can accommodate new issues that arise. For example, in the context of personal data protection, regulations such as the GDPR (General Data Protection Regulation) in the European Union provide an example of how laws can adapt to protect the rights of individuals amid the widespread use of big data. Other countries can formulate similar laws governing the collection, storage and use of personal data to reduce the potential for abuse. In

addition, policies on copyright, digital contracts and cross-border transactions also need to be updated to respond to increasingly complex developments in global digital trade and interaction. Regulations governing the use of AI, as well as oversight of potential algorithm bias, are also crucial to implement so that this technology is used ethically and responsibly.

### **3.2.2. Flexible Application of Legal Principles**

The legal system must be able to adapt itself more flexibly to technological change. One approach is to apply more general legal principles, such as fairness, transparency and protection of human rights, to legal issues related to new technologies. For example, in the case of AI, the principle of “algorithmic fairness” needs to be enforced to ensure that algorithms are non-discriminatory and accountable. This principle encourages greater scrutiny of technologies used in decision-making, as well as providing protection to individuals who may be negatively affected by the use of such technologies. In addition, the flexible application of legal principles also allows the legal system to react more quickly to new problems that have not yet been identified. For example, in the case of cybercrime, laws can be formulated with unforeseen potential threats in mind, as well as providing room for further policy adjustments where necessary.

### **3.2.3. Collaboration Between Countries and International Organizations**

As many of the legal challenges faced are cross-border in nature, international cooperation is key to the customization of legal systems. For example, in addressing cybercrime, one country may not have sufficient jurisdiction to address crimes committed by parties in another country. Therefore, the establishment of international conventions or multilateral agreements that regulate cooperation in terms of law enforcement, dispute resolution, and protection of personal data between countries is necessary. International organizations, such as the United Nations (UN), can play a role in formulating international standards that can be adopted by countries in the world to create more uniform and effective regulations in addressing legal challenges arising from technology. In addition, organizations such as Interpol can play an important role in helping countries coordinate law enforcement related to cybercrime. This approach will ensure that even if crimes or legal issues occur at a global level, there are adequate mechanisms in place to handle such cases across different jurisdictions.

### **3.2.4. National Legal System Reform**

At the domestic level, each country needs to make adjustments in its legal system to respond to the growing impact of technology. This could include the creation of specialized regulatory bodies that oversee the tech industry and ensure that tech companies comply with existing rules. For example, countries could establish a personal data protection watchdog or cybercrime authority that has the authority to handle cybercrime cases, as well as conduct audits and investigations into violations. Domestic justice systems also need to adapt by adding technology-specific expertise to process legal cases involving technology more efficiently. In addition, it is important to involve various parties in policy formulation, including technology companies, academics and civil society. Participation from these various parties will ensure that the resulting policies are more comprehensive, in line with technological developments, and take into account the interests of all parties involved.

### **3.2.5. Strengthening the Legal Framework for New Technologies**

New technologies such as AI, blockchain, and the Internet of Things (IoT) require specialized and more in-depth legal frameworks. For example, in the case of blockchain, while this technology offers various advantages in terms of transparency and data security, issues such as use in illegal transactions or money laundering need to be specifically regulated. Therefore, it is important for countries to develop a legal framework that can regulate this technology, while still encouraging innovation and protecting the interests of society. In addition, supervision of the use of technologies such as AI and robotics should also be stricter, with the aim of reducing potential risks such as privacy violations, unfairness in decision-making, and other negative social impacts.

### **3.2.6. The Role of Non-Governmental Organizations (NGOs) and the Private Sector**

In dealing with legal challenges arising from technology, the role of non-governmental organizations (NGOs) and the private sector is also crucial. NGOs can play a role in providing valuable input on the social and ethical impacts of technology, as well as advocating for the protection of human rights

in the digital world. On the other hand, the private sector, especially technology companies, have a huge responsibility to comply with existing regulations and be accountable for the social and environmental impacts of the technology products they produce. Companies can also contribute to the development of international policies and standards to create a safer and fairer technology ecosystem. Overall, adjusting legal systems to deal with technological change cannot be done in isolation, but must involve collaboration between states, international organizations, the private sector and civil society. A legal system that is adaptive, inclusive, and based on the principles of fairness and transparency will be able to create a legal framework that is more effective in facing the challenges of technology and globalization in the future.

### **3.3. Key Issues Faced**

Along with the rapid development of digital technology and globalization, a variety of key legal issues are emerging that demand serious attention from policymakers and legal practitioners around the world. These issues not only impact domestic legal systems, but also create global challenges that require international cooperation. Some of the major emerging issues related to technology and globalization are personal data protection, cybercrime, intellectual property rights, and regulatory differences between countries. Each of these issues has major implications for individuals, organizations and countries around the world.

#### **3.3.1. Personal Data Protection**

Personal data protection is one of the most pressing legal issues in the digital age. In an increasingly connected world, individuals' personal data-such as information about their health, financial transactions, and online behavior patterns-can be easily collected, analyzed, and used by companies or other parties for a variety of purposes, including marketing or even abuse. Without adequate regulation, this personal data is vulnerable to exploitation, which can lead to privacy violations and potential financial losses for individuals. Personal Data Protection Laws such as the GDPR (General Data Protection Regulation) in the European Union have become a model for personal data protection, but many other countries still lack an adequate legal framework to protect their citizens' data. A key challenge in personal data protection is how to regulate the collection and processing of data that is global in nature, as data can easily cross national borders. Therefore, regulatory updates at the national and international levels are crucial to provide better protection for individuals in the digital world.

#### **3.3.2. Cybercrime (Cybersecurity)**

Along with the increasing reliance on digital technology, cybercrime has become a significant global threat. Cybercrime encompasses a wide range of illegal activities committed using computers or digital technology, such as hacking, identity theft, online fraud, and the spread of malware. These crimes not only harm individuals, but can also destroy corporate reputations, damage critical infrastructure, and disrupt entire economic systems. The main problem faced in dealing with cybercrime is jurisdiction. Cybercrimes often involve perpetrators and victims located in different countries, which makes law enforcement and dispute resolution processes extremely complex. In addition, not all countries have adequate regulations to deal with cybercrime, and cooperation between countries is often not close enough to effectively deal with these transnational crimes. Therefore, there is a need for collective efforts to formulate international legal standards and strengthen cooperation between countries in combating cybercrime.

#### **3.3.3. Intellectual Property Rights (IPR)**

Intellectual Property Rights (IPR) is another important issue that arises with the development of technology, especially in the digital sphere. IPR includes copyrights, patents, trademarks, and industrial designs that protect creative works and technical innovations. In the digital world, IPR issues become even more complicated, as works and innovations can be easily copied, distributed, and used without permission around the world. This poses great challenges in terms of monitoring and enforcing IPR rights. One of the major challenges is copyright infringement in digital media, such as piracy of software, music, movies, and other digital content. In addition, the development of new technologies such as blockchain and AI also creates new issues in terms of IPR protection, such as who has rights to works generated by AI or rights to data stored in blockchain. In the face of these challenges, countries need to update regulations on IPR to ensure that the rights of creators and

innovators are protected, while still enabling technological advancement and wider distribution of knowledge.

### **3.3.4. Regulatory Differences Between Countries**

Regulatory differences between countries are one of the major issues that arise due to the globalization of technology. Countries around the world have different legal systems and policies in regulating the use of digital technology. These differences often lead to misalignment in regulations, especially in matters involving cross-border transactions and individual rights issues in the digital world. For example, regulations related to digital commerce and personal data protection vary widely between countries. Some countries have very strict policies regarding data protection, while others are more lax in their regulation. These differences pose a problem for multinational companies operating in different countries, as they have to comply with different regulations in each country they operate in. In addition, these regulatory mismatches can also hinder technological development and global innovation, and create legal uncertainty. Another issue related to regulatory differences between countries is jurisdiction in handling legal disputes involving technology. In many cases, crimes or disputes that occur in cyberspace may involve parties located in different countries, making it difficult to determine the applicable law or which country is authorized to handle the case. Therefore, it is important to create a more cohesive international legal framework that is acceptable to countries around the world.

### **3.3.5. Challenges in Law Enforcement**

On top of all these issues, one major challenge faced by the legal system is effective law enforcement in the digital world. While there are many regulations issued to address these issues, enforcement is often difficult, both domestically and internationally. Cybercrimes can be committed anonymously and across national borders, making it difficult to locate perpetrators and prosecute cases in court. To address these issues, it is important for countries and international organizations to strengthen international cooperation in law enforcement, share information, and develop more efficient dispute resolution mechanisms. In addition, training for law enforcement officials on new technologies, as well as the development of legal capacity to handle cases involving digital technologies, is needed so that legal systems can be more responsive to emerging challenges. The key issues faced by the development of digital technologies and globalization-including personal data protection, cybercrime, intellectual property rights, and regulatory differences between countries-are complex challenges that require innovative and collaborative legal solutions. Legal systems, both at the domestic and international levels, need to adapt quickly to address these challenges. Only with the right adjustments in policy, regulation, and international cooperation can we ensure that technology is used in a way that is safe, fair, and beneficial to the entire global community.

## **3.4. Case Example:**

To demonstrate the legal challenges posed by technological development and globalization, the following are some relevant case studies at the national and international levels. These case studies cover issues related to personal data protection, cybercrime, intellectual property rights, and regulatory differences between countries.

### **3.4.1. Facebook Case and User Data Breach (Personal Data Protection)**

One of the most famous cases regarding personal data protection is the Cambridge Analytica scandal involving Facebook. In 2018, it was revealed that the personal data of more than 87 million Facebook users had been collected without their permission and used for political campaign purposes. This data was used by analytics firm Cambridge Analytica to target political advertisements in the 2016 US presidential election. This case highlights weaknesses in the management and protection of personal data by large technology companies. **Legal Challenges:** This case demonstrates the enormous challenges in enforcing personal data protection, especially in a highly connected digital world. Regulations such as the GDPR in the European Union have become a model for the regulation of personal data, but in many other countries, similar regulations do not exist or are not strict enough. In addition, as Facebook is a company that operates in many countries, this issue raises cross-border jurisdictional and legal challenges, which makes resolving the case even more complex. **Legal Response:** In response, Facebook was subjected to heavy fines under GDPR

regulations by regulators in Europe. The case also prompted many countries to consider or adopt stricter personal data protection regulations to protect their citizens from data abuse.

### **3.4.2. WannaCry Ransomware Spread Case (Cybercrime)**

In 2017, the world was struck by a ransomware attack known as WannaCry. The malware managed to encrypt data on more than 200,000 computers in 150 countries, including hospitals, companies and government agencies. One of the biggest impacts was on the UK health system (NHS), which had most of its services disrupted due to this attack. WannaCry exploited a flaw in the Microsoft Windows operating system that many users had not updated. **Legal Challenges:** This case reflects how cyber-attacks can disrupt public services and cause huge financial losses. The biggest challenge for law enforcement is finding perpetrators and dealing with cybercrimes that involve actors from multiple countries. Existing laws in many countries are inadequate to deal with such large transnational cyber crimes. **Legal Response:** In response, international agencies such as Interpol and Europol are working with relevant countries to investigate and tackle these attacks. Microsoft also provided software updates to close the loopholes used by the malware. In addition, many countries have started strengthening regulations and policies related to cyber security.

### **3.4.3. Copyright Infringement Case by Google Books (Intellectual Property Rights)**

In 2004, Google launched the Google Books project which aimed to scan and digitize books from around the world to make them more accessible online. However, the project triggered lawsuits by several publishers and copyright holders, who accused Google of infringing their copyrights by digitizing books without permission. **Legal Challenges:** This case raises a very important issue related to digital copyright. Along with the development of digital technology, works that were previously only available in physical formats can now be easily digitized and distributed worldwide. However, many countries do not have clear regulations to govern this issue, especially in the context of digitizing works protected by copyright. Google faces major challenges when it comes to resolving disputes with parties who feel their copyrights have been infringed. **Legal Response:** In 2015, Google and the publishers reached a settlement under an agreement that allowed Google to continue the Google Books project on certain terms, including payment of royalties to publishers and copyright holders. The case also influenced the global debate on copyright in the digital age, and several countries began updating their copyright regulations to cover the use of digital works.

### **3.4.4. Cases of Dissemination of Prohibited Content on Digital Platforms (Differences in Regulations Between Countries)**

The spread of prohibited or illegal content, such as extremist content, child pornography, or hate speech, on digital platforms like Facebook, Twitter, and YouTube, often creates regulatory differences between countries. For example, some countries have very strict regulations on content deemed to violate social or legal norms (such as countries in the European Union or Middle Eastern countries), while others are more lax in regulating such content. This creates legal uncertainty for tech companies operating globally. **Legal Challenges:** The main challenge in this case was the regulatory differences between countries with regards to censorship policies and regulating content on digital platforms. Some countries require platforms to block content that violates their laws, while others consider such policies to limit freedom of expression. Enforcement is difficult because the dissemination of such content can cross national borders, so there is a need for better international coordination.

**Legal Response:** Some countries, such as Germany through the NetzDG Act, require digital platforms to remove infringing content within 24 hours or face heavy fines. On the other hand, the European Union also passed the Digital Services Act regulation that aims to increase the responsibility of platforms in managing illegal content. Nonetheless, resolving these cases requires a global approach to create more uniform regulations around the world. The above case studies illustrate the major challenges faced by legal systems in the face of technological development and globalization. These cases show that traditional laws are often insufficient to address issues arising in a highly connected digital world. Therefore, improved regulation, international cooperation, and legal system reforms are needed to effectively deal with these issues.

#### 4. CONCLUSION

From the discussion that has been done, it can be concluded that technological change and globalization have a significant impact on the legal system at the domestic and international levels. The development of digital technologies, such as the internet, artificial intelligence (AI), big data, and blockchain, raises various legal challenges that affect various aspects, ranging from personal data protection, cybercrime regulation, intellectual property rights, to regulatory differences between countries. One of the main challenges faced by the legal system is the mismatch of existing regulations with the rapid development of technology, leading to the inability of the law to regulate and address new emerging issues. This affects law enforcement, especially when it comes to cybercrime involving actors across national borders, as well as issues related to personal data protection and copyright in a globally connected digital world. Therefore, the legal system needs to adapt to these technological developments to ensure that the rights of individuals and society are well protected.

Based on these findings, several policy measures can be taken to address the legal challenges arising from technological developments. One of them is the updating of personal data protection regulations, so that they are more in line with the ever-changing developments in digital technology. An approach such as that implemented by the European Union with GDPR can be used as an example in creating stronger and more effective regulations to protect personal data at the domestic and cross-border levels. In addition, in the face of widespread cybercrime, countries should strengthen international cooperation in law enforcement and dispute resolution related to cybercrime. This cooperation can be done by strengthening the exchange of information between law enforcement agencies around the world. In the context of intellectual property rights, countries need to create regulations that are able to provide protection to creators and innovators, while ensuring that technology can develop without being limited by irrelevant regulations. Regulatory differences between countries that often hamper law enforcement in the digital world also need to be resolved through a more harmonized international legal framework. This is important to create uniform regulations in terms of regulating digital content, protecting personal data, and handling cybercrime. Going forward, there are still many areas that need further research in the field of law and technology. One of them is the development of more efficient international dispute resolution mechanisms, especially in relation to cybercrime and transnational legal issues. This research will be very useful to identify new ways of dealing with problems that arise due to technological globalization. In addition, there is a need for further research into the legal impact of new technologies such as AI and blockchain, which may raise new challenges in terms of intellectual property rights, privacy, as well as regulations that need to be updated to suit these developments. Finally, as the use of AI in legal decision-making increases, research into the ethics of using AI in the legal system will be crucial. This includes how the law can ensure that AI is used fairly, transparently and without bias, especially in decisions that could affect the lives of individuals or society as a whole.

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