
THE IMPACT OF TECHNOLOGY ON PRIVATE INTERNATIONAL LAW

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ABSTRACT

The fast development of technology has greatly changed the face of private international law. The rise of online commerce, cloud computing, artificial intelligence, blockchain technology, and other forms of digital business transactions have raised numerous issues relating to jurisdiction, conflict of laws, and the recognition and enforcement of foreign judgments. With people and companies participating in transactions that go beyond the borders of their nations using technology, deciding which legal system is applicable becomes complicated. Advancements in technology frequently result in cases where many jurisdictions can assert jurisdiction over the matter.

In this article, the influence of modern technologies upon private international law is analyzed in detail, as well as the efficiency of current measures that can help solve arising problems in the domain of international relations. In particular, the paper investigates various challenges connected with online agreements, data security, management of digital property, e-commerce, and virtual contacts. Moreover, it pays attention to the ways in which judges and policy-makers are developing the old legal framework to fit into the new conditions, while keeping the existing standards unchanged. Thus, the necessity of international collaboration and unification of laws becomes clear.

Keywords: Private International Law, Technology, Jurisdiction, Digital Transactions, CrossBorder Disputes, Data Protection, Cybersecurity, Artificial Intelligence.

I. INTRODUCTION

Technologies have become a defining aspect of contemporary life, influencing the manner in which parties conduct their activities irrespective of geographical borders. The growth of the internet, digital communication, electronic commerce, cloud computing, as well as other new technologies such as artificial intelligence and blockchain technology,¹ has enhanced the frequency of crossborder interactions. With many commercial and personal dealings now conducted in cyberspace, there is the need for the legal system to find a way to settle any disputes between parties who are physically outside the borders of one state.

The branch of law that regulates international disputes with foreign elements includes private international law or conflict of laws.² The process of dispute resolution through private international law usually involves establishing jurisdiction and determining the appropriate choice of law,³ among other processes. This type of law was established when most transactions took place in person. Technological innovations have made it harder to establish where transactions take place, the jurisdiction involved, as well as the laws that should be applied in such cases.

The increasing number of contracts, services, payments, and transactions carried out online has led to emerging legal issues for which the current legal regime was never designed to resolve. Problems connected to data protection, cybersecurity, digital goods, and e-commerce⁴ have illustrated the weaknesses of the existing rules of private international law. As a result, courts, lawmakers, and international bodies have to adapt current laws to the requirements of modern times.

This paper will explore the effects of technical innovations on private international law, emphasizing the challenges faced by lawyers in regulating international relations and the ways they respond to these challenges.

II. BACKGROUND OF THE RESEARCH

The advent of technology has made communication and the doing of business as well as

¹ Dan Jerker B. Svantesson, *Private International Law and the Internet* (3rd edn, Kluwer Law International 2016).

² J.G. Collier, *Conflict of Laws* (4th edn, Cambridge University Press 2013).

³ Symeon C. Symeonides, *Choice of Law* (Oxford University Press 2016).

⁴ Christopher Kuner, *Transborder Data Flows and Data Privacy Law* (Oxford University Press 2013).

interaction among people from different countries easier. With the expansion of the internet and digital technology over the last few decades, the world has become a very connected place and transactions can be conducted in real time by people living in distant lands. Companies now use technology to conduct their businesses overseas, while individuals also use it to undertake activities that transcend national borders using social media, internet trading sites, and other communication platforms.⁵

Private international law has historically sought to regulate disputes⁶ that have some connection to laws outside the immediate jurisdiction. The essence of private international law is to identify which jurisdiction's courts are competent to decide the matter, which jurisdiction's law applies, and whether the decisions of another jurisdiction need to be enforced. This set of rules was developed during an era when law and geography were inseparable entities.

The rise of digital technology has brought up many problems in connection with these assumptions. In dealing with digital transactions, one issue which always arises is how to determine the location of the transaction or of any harm suffered. With emerging ideas like digital property and electronic contract⁷ as well as other innovations that have legal implications in terms of privacy and security, legal issues surrounding jurisdiction and choice of law have gained importance.

More technological breakthroughs bring about more difficult issues for the world's legal systems to adapt old private international law to the new environment. It would be very helpful to have adequate understanding of the connection between technology and private international law.

III. LITERATURE REVIEW

The issue of the interaction between the development of technology and private international law has been studied in detail by researchers. Various scholars have considered the problem of overcoming the influence of technological advancement on such fundamental principles of conflict of laws as jurisdiction, choice of law, and the recognition of judgments.

According to Symeon C. Symeonides (2016), the process of globalization and the development

⁵ Dan Jerker B. Svantesson, *Private International Law and the Internet* (2016).

⁶ Cheshire, North & Fawcett, *Private International Law* (15th edn, OUP 2017).

⁷ J.G. Collier, *Conflict of Laws* (2013).

of modern technologies played a significant role in shaping conflict of laws by creating legal relations beyond territorial jurisdiction. The scholar has paid much attention to the necessity to adapt conflict of laws to new realities.⁸

The research done by Mireille van Eechoud (2010) was devoted to analyzing the influence of new technologies on jurisdiction problems in case of disputes related to intellectual property in cyberspace. Her research pointed out the problems associated with the determination of the forum competent to resolve such disputes.⁹

The problems of jurisdiction arising under the impact of the internet and new technologies were analyzed in Dan Jerker B. Svantesson (2017)'s work. The scholar proved that the use of territorial solutions is ineffective when discussing online disputes.¹⁰

Kuner, Christopher (2013) studied the international aspects of data protection and privacy laws. The author showed how the transfer of data across borders creates difficult issues of what law should be applied, where jurisdiction lies, and how cooperation is necessary between countries.¹¹

Mills, Alex (2018) concentrated on the changing function of private international law in the sphere of global governance. He stressed that the technological progress necessitates international collaboration to provide consistency, certainty, and justice when resolving disputes involving more than one country.¹²

From the literature review, one can see that the technology has changed the way of international legal relations and that modern private international law does not cover all challenges related to this issue. Although there were many suggestions on how to overcome these difficulties, further adaptation of the law and cooperation at the international level are still required.

IV. RESEARCH OBJECTIVES

This research paper seeks to investigate how technology affects the doctrines and application

⁸ Symeon C. Symeonides, *Choice of Law* (Oxford University Press 2016).

⁹ Mireille van Eechoud, *Choice of Law in Copyright and Related Rights* (Kluwer Law International 2003).

¹⁰ Dan Jerker B. Svantesson, *Private International Law and the Internet* (3rd edn, Kluwer Law International 2016).

¹¹ Christopher Kuner, *Transborder Data Flows and Data Privacy Law* (Oxford University Press 2013).

¹² Alex Mills, *Party Autonomy in Private International Law* (Cambridge University Press 2018).

of private international law in today's world environment. The specific objectives of the research are as follows:

1. To conduct an analysis of how new technologies affect conventional doctrines like jurisdiction, choice of laws, and recognition and enforcement of foreign judgment.
2. To identify the legal problems that arise from cross-border electronic commerce transactions and digital contracts.
3. To investigate whether current systems of private international law can adequately handle controversies arising out of the use of digital technologies.
4. To investigate the problems related to data protection, privacy, cyber security, and digital assets within the realm of private international law.
5. To investigate the need for international cooperation to deal with new legal problems caused by new technologies.
6. To make suggestions about how to strengthen private international law systems to solve digital controversies.

V. METHODOLOGY OF THE RESEARCH

The present research has been conducted using a doctrinal and analytical approach towards understanding the effects of technology on private international law. This research will rely primarily on the use of secondary data sources, including books, journals, legal commentary, international treaties, statutes, court decisions, and the findings from various national and international institutions.¹³

This research involves analyzing the doctrines of jurisdiction, choice of law, and the recognition and enforcement of foreign judgments under the ambit of private international law, assessing the effects that modern advancements in technology have had on their practical application in international digital transactions and disputes. Specific focus will be placed on the problems posed by electronic commerce, contracts, cyber security, and digital assets.

¹³ William Twining, *How to Do Things with Rules* (Cambridge University Press 2010).

Qualitative methods have been utilized in analyzing the current legal systems and views regarding the problems associated with new technologies. Analysis of legal documents and literature will be conducted in order to determine weaknesses in the current regulatory system as well as to evaluate the adequacy of the laws that respond to new innovations¹⁴

Comparative study of other countries' laws is part of the current research methodology wherever necessary. It aims at analyzing available legal sources so as to determine the interaction between technology and private international law and suggest solutions to legal issues resulting from new technological inventions.

VI. LEGAL AND POLICY FRAMEWORK

The legal and policy environment in which private international law exists has undergone considerable development over a number of years through the efforts of national governments, judicial processes, and international agreements. These instruments are highly instrumental in solving disputes that have international elements.

The first instrument worth considering is the work done by the (HCCH). This organization has produced a great many conventions on such subjects as jurisdiction, service of documents, the taking of evidence, the protection of children, and recognition of judgments.¹⁵ Although many of the aforementioned conventions have been formulated prior to the advent of modern digital technology, they still serve as a solid ground for international legal cooperation.¹⁶

Another instrument adopted in the sphere of private international law is a number of regulations issued. These regulations focus on such areas as jurisdiction and the recognition of judgments.¹⁷ They contribute considerably towards creating legal certainty in cross-border disputes.

Issues related to technology can be affected by legal regulation of e-commerce transactions. The has made a significant contribution to the creation of legal norms that establish rules of conduct in relation to digital communication and contract making.¹⁸ These standards confirm

¹⁴ Ian McLeod, *Legal Method* (9th edn, Palgrave Macmillan 2013).

¹⁵ Hague Convention on Choice of Court Agreements 2005.

¹⁶ Hague Convention on the Recognition and Enforcement of Foreign Judgments in Civil or Commercial Matters 2019.

¹⁷ UNCITRAL Model Law on Electronic Commerce 1996.

¹⁸ UNCITRAL Model Law on Electronic Signatures 2001.

the legality of electronic documents¹⁹ and ensure smooth international e-trade²⁰.

The issue of personal data protection is becoming an important element of the legal framework. Collection, processing, and transmission of information about individuals create certain jurisdictional problems regarding applicability of national legislation to such acts. Various states implement different approaches to protecting users' rights; hence, legal regulation of e-commerce issues is fragmented and may complicate dispute resolution in cross-border cases.

Legislation on cyber security, electronic signatures, consumers' rights, and online conflict resolution is also developed within the legal regulation of the issue under discussion. However, national legal regulation of the matter varies from one jurisdiction to another; therefore, establishing applicable law becomes problematic.

The policy agenda is becoming more and more focused on international cooperation and harmonization of regulations. It has been recognized that the conflicts associated with technology very often occur across borders and thus cannot be tackled without a coordinated legal strategy. The debate around such issues as regulation of artificial intelligence, blockchain, digital taxation, and cross-border flow of data indicates attempts at adaptation of the legal framework to changes brought about by new technologies.

However, the legal framework is still far from being unified. Rules that currently exist were developed within a context where there was little to no use of digital technologies; interactions between subjects were mostly physical and territorial.

VII. ADAPTATION AND MITIGATION GAPS

The fast development of technology has revealed several shortcomings of the traditional private international law. Even though the legal systems try to keep up with the changes, there remain certain gaps between new technologies and laws.²¹

One of the biggest gaps is connected with jurisdiction. Traditionally, jurisdiction is established based on territorial links, such as residency or domicile of a person or the place where an event took place. However, in the internet environment, it becomes rather challenging to identify a

¹⁹ United Nations Convention on the Use of Electronic Communications in International Contracts 2005.

²⁰ Regulation (EU) No 1215/2012 (Brussels I Recast Regulation).

²¹ Dan Jerker B. Svantesson, *Private International Law and the Internet* (3rd edn, Kluwer Law International 2016).

place. The transaction conducted via the internet may concern parties who reside in different countries. Moreover, the servers and even payment systems operate not only in one country but in several of them at once.

The gap related to identifying applicable law is also crucial. It involves defining the links to the jurisdiction which can help identify the law that should govern legal relations. As mentioned above, online transactions may take place through a website operating from a certain server that can be located anywhere in the world. In addition, people living in one country make payments using services of another country.

Enforcement of the decisions is yet another problem that should be discussed. While a court manages to resolve a conflict in one country, it may prove challenging to enforce its decision within another country due to legal differences, procedures, and public policies. This problem will become even more pronounced in technology-related conflicts, as digital products or actions are unlikely to relate to any particular territory.

Data protection laws also pose significant problems as there are major discrepancies in how different countries deal with data protection in international transactions. Digital means make it possible to transfer personal information around the globe via the Internet and cloud computing services.²² The difference in laws regulating personal information security is likely to cause legal conflict when dealing with foreign parties.

One more aspect that poses difficulties for legal adjustment is cybersecurity. Hackers and other cybercriminals are known to operate from one jurisdiction and victimize others. This makes it difficult to choose jurisdiction for a trial and apply relevant legislation.

Moreover, the introduction of artificial intelligence and the blockchain has brought new regulation challenges. Decisions taken by an AI system might have an impact on persons across various states, while the blockchain operates on a decentralized system that does not correspond with traditional legal principles. Liability, jurisdiction, and enforcement issues are some examples of the issues left unresolved in most countries.²³

Solving such problems requires legislative changes, international collaboration, and the

²² Christopher Kuner, *Transborder Data Flows and Data Privacy Law* (Oxford University Press 2013).

²³ Alex Mills, *Party Autonomy in Private International Law* (Cambridge University Press 2018).

creation of new jurisprudential approaches. The cooperation between different states is needed to create uniform standards in relation to resolving disputes caused by technology use. In courts, it would be appropriate to apply a flexible approach that takes into account the particularities of digital contacts while ensuring justice. Further, international organizations might contribute to the development of cooperation and legal norms for emerging technologies.

The existence of such adaptation and mitigation gaps indicates that the field of private international law is undergoing a transition stage. While considerable achievements have already been gained, further reforms will be required.²⁴

VIII. CASE LAWS RELATED TO THE IMPACT OF TECHNOLOGY ON PRIVATE INTERNATIONAL LAW

The judicial decisions have contributed greatly in the development of the application of private international law in the modern times. Courts in different jurisdictions have been forced to make rulings in cases of disputes that arise from the use of the internet in activities such as commerce, transaction and even protection of information. It has brought about problems that have faced traditional approaches of private international law.

One of the most important cases in this regard is *Zippo Manufacturing Co. v. Zippo Dot Com, Inc.* (1997).²⁵ In this case, the court in question was deliberating on the jurisdiction of the internet business conducted through websites. The court came up with the “Zippo Sliding Scale Test” to determine jurisdiction based on how interactive the website is.

The other key case law involves *Yahoo! Inc. v. La Ligue Contre le Racisme et l’Antisemitisme* (2001).²⁶ This case involved a court order issued by a French court ordering Yahoo to limit access to certain materials violating French laws. This case exemplified the challenges inherent in enforcing national legislation on internet activities available internationally.

Google LLC v. Equustek Solutions Inc. (2017)²⁷ is a Canadian Supreme Court case in which the court ordered Google to delete certain search results from its database around the world.

²⁴ J. G. Collier, *Conflict of Laws* (4th edn, Cambridge University Press 2013).

²⁵ *Zippo Manufacturing Co. v. Zippo Dot Com, Inc.*, 952 F Supp 1119 (WD Pa 1997).

²⁶ *Yahoo! Inc. v. La Ligue Contre le Racisme et l’Antisemitisme*, 433 F3d 1199 (9th Cir 2006).

²⁷ *Dow Jones & Company Inc. v. Gutnick* [2002] HCA 56.

While this shows the increasing trend among courts in issuing orders with international consequences based on online activities, it also highlights issues pertaining to the extraterritoriality of domestic judgments.

The case of *Dow Jones & Company Inc. v. Gutnick* (2002)²⁸ was yet another contribution to the principles of internet jurisdiction. In this case, the High Court of Australia stated that the act of defamation on the Internet is completed not at the location of uploading but at the location from which the content was downloaded and understood. Thus, the case showed that the application of private international law to online actions may greatly extend the jurisdiction of the court.

Also noteworthy are data protection cases, whose effects have been felt by private international law. The case of *Google Spain SL v. Agencia Española de Protección de Datos* (2014)²⁹ introduced the principle of the right to be forgotten to the European private international law arena.

Likewise, *Facebook Ireland Ltd. V. Schrems* (2020),³⁰ or as it is popularly known, *Schrems II*, involved the issue of international transfer of personal data. This case highlighted the need to protect the right to privacy while regulating the movement of data across borders. Moreover, it showcased the problems faced in harmonizing conflicting laws within different jurisdictions.

The above-mentioned judicial decisions illustrate how, increasingly, courts are being called upon to interpret the principles of private international law within the context of technological complexities. Even though much ground has been covered in this regard, there are still issues of ambiguity that remain unresolved.

IX. RECOMMENDATIONS

A number of recommendations can be offered to assist in enhancing the effectiveness of Private International Law regarding Technology-Related Disputes in light of the identified challenges.

First, additional harmonisation of the international legal system will need to occur because

²⁸ *Google Spain SL v. Agencia Española de Protección de Datos (AEPD)*, Case C-131/12, [2014] ECR.

²⁹ *Google LLC v. Equustek Solutions Inc.*, 2017 SCC 34.

³⁰ *Data Protection Commissioner v. Facebook Ireland Ltd and Maximillian Schrems (Schrems II)*, Case C-311/18 (2020).

digital activities generally occur across many countries, resulting in differences and conflicts involving domestic laws. International organisations and states should work together in the creation of common standards related to jurisdiction, applicable laws, and the recognition and enforcement of judgments concerning technology-related disputes.

Second, existing frameworks of Private International Law should be revised to reflect the realities of digital interactions — that is, traditional connecting factors that are primarily territorial are likely to be insufficient in many online contexts; therefore, legislators should look at flexible methods that will assist in resolving complex digital relationships.

Third, Attention should be paid to cross-border privacy/protection issues; There need to be clearer, more consistent rules for the collection, processing, storage, & transfer of personal information. This will create legal certainties while protecting individuals' rights.

Fourth, Legal systems must develop their ability to respond to cybercrime and cybersecurity incidents through improved coordination between countries to address the transnational nature of cyber threats. Cooperation will require improved information sharing, improved mutual legal assistance, and coordinated enforcement efforts which will support improved responses to cybersecurity issues.

Fifth, Regulatory frameworks must address new technologies such as AI, blockchain technology, & digital assets so that clear legal standards exist for liability, jurisdiction and civil procedures so that new technology develops in a predictable legal setting.

Sixth, judges and attorneys need special training about technology-related law because having an improved understanding of digital technologies will provide all judicial officers with a better and more consistent basis to apply the principles of private international law.

Finally, using online methods for resolving disputes should be encouraged. Digital platforms are able to provide efficient and inexpensive means of resolving cross-border disputes resulting from e-commerce transactions. Incorporating technology into the resolution of disputes will likely facilitate access to justice and diminish procedural barriers to justice.

By adopting the recommendations above, legal systems will be better positioned to meet the challenges posed by technological advances in order to keep private international law relevant in regulating the cross-border relationships created in this digital era.

X. CONCLUSION

These technological changes have been disruptive to the nature of international law in terms of how nations relate to each other through a legal context. The expansion of e-commerce, digital technologies, cloud computing, artificial intelligence, and cross-border data transfers has provided new avenues for nations to interact globally. However, these same technologies present challenges for Private International Law which was created in such a way as to govern legal relationships that are identifiable by a territorial location.

This research has shown that traditional legal concepts (such as jurisdiction, choice of law and recognition/enforcement of foreign judgments) are increasingly becoming less reliable in terms of how they are applied due to the realities of the digital age. Online activity often occurs across many jurisdictions and can make it difficult to determine what legal forum to use or which legal rules will be applicable. The backdrop of digital technology is often without borders which also produces uncertainty as to if traditional legal principles can adequately address these concerns.

Examination of national, regional and global laws and policy arrangements shows that there's been considerable effort put into responding to technological advances through global entities, national governments and judiciary bodies using a variety of actions to increase legal assurance and facilitate the ability of countries to work collaboratively with one another. As a result of this, there are still major inconsistencies and differences between national legal systems which leads to fragmentation among the jurisdictions.

In the course of this research, it was also determined that there are still a number of adaptation and mitigation gaps. Many jurisdictions still do not have clearly defined legal remedies regarding areas associated with online jurisdiction, cross-border data protection, cybersecurity incidents, digital assets and new and emerging technologies. Many existing laws do not adequately provide clear legal guidance for determining disputes that occur in a technology driven world.

A review of judicial rulings shows that courts have been instrumental in the development of private international law for today's world; however, relying only on judicial interpretation is not enough to deal with the vast number of issues that are arising as a result of all the new technologies being introduced into our society. Legislative reform and international

cooperation will be necessary to create the best legal framework for regulating these new forms of doing business.

To conclude, technology has changed the nature of cross-border interactions and highlighted the gaps of generally accepted legal principles and practices in private international law. As digital technologies continue to evolve, it will be necessary to adapt the law regularly, so that it is still fair and predictable, as well as provide effective methods for resolving disputes in our growingly interconnected world.

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