

UDK: 35 : 004
35 : 004.8
Review paper

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LEGAL CHALLENGES OF DIGITALIZATION IN THE LEGAL PROFESSION: BALANCING LEGALITY AND ECONOMIC EFFICIENCY

ABSTRACT

The digitalization of the legal profession has evolved dramatically, as the advocates of new technology have succeeded in persuading large law firms to integrate AI algorithms, big data analysis, and blockchain technologies into their everyday legal routines. A number of companies offer legal services based on incorporated digital technology or combine new technology with business process outsourcing and other forms of standard economic efficiency practices. Furthermore, digital legal products have largely entered daily legal routines as procedures and outcomes of litigation, arbitration, legal consulting, legal risk and compliance, advisory and management, human resource management, or the resolution of agency problems have become quantifiable, predictable, and analyzable data sets. AI legal diagnosis tools, big data in litigation and arbitration, compliance applications in enterprise resource planning systems, or simple service bots that power all kinds of automatic knowledge management, NLP, or other standard office packages are part of many modern legal practices. This paper uses a qualitative research methodology, combining doctrinal legal research with case study analysis. Doctrinal research includes a critical review of academic literature, legal norms, professional codes, and regulatory frameworks from various jurisdictions. The case study analysis examines digitalization practices in legal firms and institutions, focusing on selected domains: real estate, insurance, and e-health law. This dual-method approach helps contextualize the difficulties and legal effects of technological adoption within the legal profession, particularly to understand the deficiency of controlling digital apparatuses, how these affect legalities and ethical standards. Computer-based case law and commentaries are slowly but surely replacing printed versions, irrespective of a jurisdiction's laws on the use of legal technology or available technologies for law. The use of digital platform as a support means nothing but enhancing righteousness in supporting the use of digital technology as a platform to promote digital products and services. How do legal experts deal with these demands? What improvements could digitalization bring to the lives of busy law practitioners? Among many, digital legal information sources already support finding the material needed and then making it available. New filtering mechanisms for legal knowledge could diminish the problem of having too much data while experts find themselves with too little time. Technological progress has brought support tools for contract drafting, as well as management, while guaranteeing legal security in this regard. Additionally, new computer programs could provide 24-hour advice to them. Nevertheless, these new virtual advisors have not led to a decrease in the demand for legal advice and services from lawyers, but to an increase, especially from non-wealthy clients. Furthermore, if automation forces a change in old legal services' business models, such changes could only be positive, as not all tasks could be replaced by digital resources, particularly the special added value of the

lawyer-human judgment, confidence, and insight in the field. Regarding the questions of balancing legality with economic efficiency in digitalization of legal profession, a significant emphasize must be given to questions, relating to a legality and relevance of AI translated documents, as it could happen that the true (legal) meaning of these documents can be lost with an AI translation. Through an analysis of case studies in real estate, insurance, and e-health sectors, this study gives real life examples. explores these challenges in depth. Our findings reveal that digitalization in the legal sector presents a unique problem without clear and suitable solution. Any acceptable solutions must align closely with established legal methodologies within the existing legal system. It is also essential to articulate and implement desired objectives to shape the trajectory of this evolving legal tradition. Currently, the IT applications used by legal firms lack specialized reliability functions that require extensive research and synchronization. Complex data is also seen as inadequate in delivering the full range of potential benefits. They primarily serve as costly third-party services capable of managing only a limited number of instances, similar to a notary, without accommodating the multifaceted changes that modern legal practice demands.

Keywords: Digitalization, Legal profession, Legal technology, Economic efficiency, AI integration.

1. INTRODUCTION

This paper utilizes socio-legal theory and legal pragmatism to analyze the relationship between legal norms and the emergence of new technologies. These theoretical perspectives are useful in assessing whether the technological paradigm shifts observed favor basic legal ideals, to include justice, equality before the law, and a right to due process. With regard to this issue, the article will critically engage with three central research questions, aiming to provide well-founded responses through analytical inquiry.

- What is the impact of digitalization on the provision of legal services and structure of legal services?
- How do legal professionals navigate between legality and economic efficiency in adopting digital tools?
- What are the ethical implications of automation and AI in legal practice?

Digitalization is changing the world, including the legal profession. Contrary to many other professions, a fortiori for lawyers, the legal challenges arising in this context are of a double nature: on one hand, legal standards and rules must be observed; on the other hand, the economic efficiency of the production of legal services is to be promoted. Instead of establishing ethical norms, we should ask in the context of digitalization about economic production processes and the way they can be improved - this is where we are getting to the potential of digitalization. The insurmountable norms which are unique to the specific combination of the legal profession and the permanence in the method of processes of production of economy reaching normalization can contrast the obstacles and

possibilities of digitalization present with the preceding modernity of non-normative systems such as creative art, architecture and political insights.¹

It is beyond any doubt that the nature of digital technology has led to the digitalization of the legal profession. The interesting question is whether such changes in the legal profession do indeed entail its modernization. The endeavor to create a new role for the lawyer who will be open to the use of all modern digital technology can create some further sharp distinctions that merit discussion.² Given the absence of engaged legal commentary on this subject, the focus has to be on offering multiple understandings and perspectives of the legal implications of the digital revolution in the legal community.³

2. THE IMPACT OF DIGITALIZATION ON THE LEGAL PROFESSION

Ever since the introduction of the typewriter, the legal profession has been undergoing constant digitalization. The dominating milestones of electronic communication and the implementation of electronic working aids have turned the legal field into the digital area of responsibility it is today. The current digitalization era is creating new trends and milestones. Regarding the historical development, one will be able to better assess the present reshaping process. Generally, the digitalization era has accelerated existing developments and broadened them into smaller and intertemporal units. More intensively, current developments are focusing on the digital shaping of the legal preparatory and advisory processes, which means that programmable working aids are able to perform new tasks. In this context, the first chapter aims to show the impact that digitalization has on the profession of legal advice.⁴

At first, the historical development is described, and then the reasons for this digital reshaping of the profession are outlined. As legal practice applies the law to single cases by means of communication and argumentation, the primary

¹ Babikian, J., *Navigating legal frontiers: exploring emerging issues in cyber law*, Revista Española de Documentación Científica, 17(2), 2023, p. 101.

² Reis, O.; Eneh, N. E.; Ehimuan, B.; Anyanwu, A., *Privacy law challenges in the digital age: a global review of legislation and enforcement*, Journal of Applied Research in Legal Studies, 5(2), 2024, p. 110.

³ Lescrauwaet, L.; Wagner, H.; Yoon, C., *Adaptive legal frameworks in emerging technologies*, Law and Economics Review, 14(4), 2022, p. 326.

⁴ Akpobome, O., *The Impact of Emerging Technologies on Legal Frameworks: A Model for Adaptive Regulation*, International Journal of Research Publication and Reviews, 5(4), 2024, p. 132.

relevant link between law and communication will be pointed out. Furthermore, the advent of electronic processing of knowledge has brought problems with it, to which the digital age has responded with different conflicting possibilities. For the position of the legal profession, the new possibilities of artificial intelligence will be the next step to consider. Finally, the chapter shows that this reshaping will make legal advice more efficient, but also examines the adverse economic consequences and offers a word of caution against excessive digitalization.⁵

2.1. Historical Context

At professional and regulatory levels, the legal profession has steadily adapted to technological change over the past few centuries. Digitization of the tools of the legal profession, especially in the last century, has also been driven by unprecedented technological developments and economic demands. The introduction of computerized systems in the legal profession might be the most drastic jump toward digitalization, as it changed both the operations and the paradigm of the legal profession from an external point of view. The legal operations shifted from mere writing of legal memos obtained from searches in hard copy dictionaries to electronic database searches and communications. From the paradigm point of view, the attorney's act of searching for materials in the library was replaced with the attorney's act of reviewing the materials supplied directly in print form by the database management system. Thus, the production of a legal memorandum or case file reflects the creation of the case file literally by the computer.⁶

Following the digital advances in the database field, case management software continued to develop alongside other computer technologies. Early case management software mainly helped lawyers and support staff in such administrative tasks as scheduling and collecting client and case information; tracking deadlines, appointments, etc.; basic full-text indexing; and text searching. It also facilitated communications between various lawyers, legal personnel, and their clients. The attorney benefits of electronic file management were somewhat offset by the need to substantially change the way that traditional lawyers operated. For example, searching for cases in the reports required a different understanding of how issues were related to other issues in the case annotations as opposed to how they might be related in search results. Preferring manual methods for file searches was another source of attorney reluctance. Only time would reveal the

⁵ Lescrauwaet, L.; Wagner, H.; Yoon, C., *op. cit.*, p. 313.

⁶ Nguyen, M. T.; Tran, M. Q., *Balancing security and privacy in the digital age: an in-depth analysis of legal and regulatory frameworks impacting cybersecurity practices*, International Journal of Intelligent Systems, 39(2), 2023, pp. 221.

full potential of electronic filing and search capabilities. Understanding the history of legal technology provides greater depth when examining the legal technology of today.⁷

2.2. Advantages of Digitalization

Much has already been written about the advantages of digitalization in the legal profession. Legal technology holds numerous promises for attorneys and law firms, such as facilitating legal research more efficiently, improving the way legal work is done, and making legal services more accessible and affordable. Digital platforms can be used to improve the way legal research is done: digital resources can be connected within one system, legal professionals can quickly search thousands of files and find related resources that are based on keyword searches.⁸ Over time, the cognitive capabilities of powerful legal search engines improve through the processing of human-provided feedback. As digital tools for communication and networking have also been enhanced, legal professionals can easily identify and communicate with clients and other potential sources or with other attorneys working on similar cases by using chat support, video, and audio tools.⁹

Digital tools and platforms can also be used to facilitate project management in law firms, thus improving team collaboration and workflow. For example, as digital platforms allow project managers to distribute work and oversee the pace of work, collaboration mechanisms and an overview of the entire workflow and allocated resources can be made more efficient. This can make legal work easier and more efficient and speed up communication and collaboration. In addition, automated legal work, such as criminal legal checks, can free up the time of legal professionals, making them more productive by removing administrative tasks and thereby increasing their capacity to do more work and services. It can also reduce the staff costs of junior professionals, contributing to the overall cost-effectiveness of the law firm and the final costs to the client. This example helps underline the fact that legal tech can enable legal practitioners to enhance economic efficiency and the affordability and access of legal services. In conclusion, the predicted future potentials of legal tech provide potential to attain the optimal level of benefits achievable by using information in lawful and legal work, thus providing a platform for effective and efficient legal service. It is also apparent that legal tech and communication networks can assist legal professionals in managing the

⁷ Reis, O.; Eneh, N. E.; Ehimuan, B.; Anyanwu, A., *op. cit.*, p. 114.

⁸ Nguyen, M. T.; Tran, M. Q., *op. cit.*, p. 229.

⁹ Golia Jr, A., *The Transformative Potential of Meta's Oversight Board*, Indiana Journal of Global Legal Studies, 30(1), 2023, p. 131.

potential for inaction and illegal advice that would contravene ethical obligations.¹⁰

3. LEGAL FRAMEWORKS AND REGULATIONS IN THE DIGITAL ERA

Digitalization has greatly shaken up the world of work in the entire economy and society. Digital innovations have not left self-employed legal professionals unaffected, who are increasingly using digital applications. This book explores some of the legal and ethical issues that have arisen in the era of digitalization in the legal profession. In this chapter, we will look more closely at the legal frameworks and regulations that apply to digitalization and the use of new technologies. As we demonstrate, different legal orders all over the world have to grapple with these issues. We will therefore not focus on specific national regulations but rather on how the use of new technologies in the legal profession can be reconciled with prevalent international professional standards. This will provide us with the necessary foundation to address the more intricate ethical issues that are discussed in the subsequent chapters.¹¹

Whoever works with digital applications, regardless of the jurisdiction, must do so in compliance with the legal provisions in effect, and it is known that the new technologies for the most part give rise to many legal questions. In many fields, national laws are increasingly adapting in order to keep pace with digital developments. At the international level, these endeavors are accompanied by considerations of international harmonization of laws in this respect. As the digitalization of a profession cannot be limited to the scope of one single country, these developments should be closely followed and analyzed by all self-employed legal practitioners. From this kind of uniformity of both *de lege lata* and *de lege ferenda* legal regulations, the hopes pinned on the emergence of a coherent global digital legal environment stem. In this way, new and evolving technologies in the legal sector require attentive supervision, without begetting a crackdown on innovation that could stilt their development in real life.¹²

¹⁰ Nguyen, M. T.; Tran, M. Q., *op. cit.*, p. 210.

¹¹ Akpuokwe, C. U.; Adeniyi, A. O.; Bakare, S. S., *Legal challenges of artificial intelligence and robotics: a comprehensive review*, Computer Science & IT Research Journal, 5(3), 2024, p. 53.

¹² Lino, A. F.; Aquino, A. C. B.; Neves, F. R., *Accountants' postures under compulsory digital transformation imposed by government oversight authorities*, Financial Accountability & Management, 38(4), 2022, p. 513.

3.1. International Standards

Technological advances and their related legal and ethical implications require legal professionals to be technologically literate and always up to date with recent international standards that have legal implications. In the field of technology law, many international treaties and agreements adopting clear legal standards have been concluded. Even the most recent treaties insist on protecting private data. Additionally, many treaty regulations impose limitations on the commercial exploitation of intellectual property rights to guarantee the protection of consumers' interests and the protection of fundamental human rights. Different norms are applicable to identify the regulation that stands as the most favorable one.¹³

Many international laws are applicable in different business relations. The cyber threat does not respect any borders, so lawyers must learn other laws in order to cooperate with one another. Also, all financial transactions are subject to rules of anti-money laundering, and the withdrawal of money should be reported to the foreign lawyer. The issue of taxation on digital goods has also become prevalent. In cyberspace, conduct cannot be subject to the laws of the country where the service provider is located. An international lawyer must coordinate different conduct and attitudes for each country involved, and the global character of international lawyers' ethics requires that it consists of a variety of local ethics to engage with specific ethical aspects of conduct. In part, the ICJ considers international lawyers' professional obligations rather than professional capacity. It is important for lawyers to adjust to technology and keep updated with the legal processes used by international organizations.¹⁴

3.2. National Legislation

Legal services in numerous jurisdictions are heavily regulated, primarily with the intention of safeguarding the interests and welfare of the public. Consequently, one can expect to observe a significant degree of variation in how different regions approach the liberalization of legal service provision. Despite these differences, it is evident that while countries may adopt diverse policy strategies in response to the liberalization phenomenon as they assess their national laws, a number of common influences and underlying drivers emerge across many jurisdictions. This is particularly evident in the predominant focus on fostering competition within

¹³ Gromova, E. A.; Koneva, N. S., *Legal barriers to the implementation of digital industry (Industry 4.0) components*, The Journal of World Economy, 2022, p. 70.

¹⁴ Akpobome, O., *op. cit.*, p. 135.

the legal sector. An overview that highlights some of these shared elements and influences is certainly informative and valuable.¹⁵

For instance, The United Kingdom Legal Services Act and the Legal Services Board emerged as one of the pioneering pro-provider services Acts in the recent period, marking a significant turning point, with many initiatives commencing from the year 2010. This important legislation was inspired in part by the Tesco law and is characterized as being notably client-driven. Under this framework, the Legal Services Board (LSB) plays a crucial role in setting the law regarding the legislation itself. In this structure, various regulatory bodies, including the Solicitors Regulation Authority (SRA), the Bar Standards Board (BSB), ILEX Professional Standards, and others, are tasked with the regulation of legal practitioners to ensure compliance and uphold standards. Furthermore, the aspect of quality assurance falls under the purview of the Legal Services Act, which is diligently administered by both the Legal Ombudsman and the Legal Standards Board, ensuring that clients receive a high level of service in their legal dealings.¹⁶

b) Enacting a Tesco Law allows incorporated firms to broaden their avenues by investing in and competing in a diverse range of other markets. One Stop Shops have successfully provided essential services both face-to-face and over the Internet, catering to various consumer preferences. In the UK, extensive consultation with stakeholders showed little to no significant opposition against the Legal Services Act, despite some lawyers expressing their belief that face-to-face interactions should remain the primary mode of contact for clients seeking legal services. This dialogue highlights the evolving landscape of legal service provision.¹⁷

4. ETHICAL CONSIDERATIONS IN LEGAL TECH

As the legal profession increasingly integrates modern technology into its various operations, numerous new issues inevitably arise from an ethical perspective that must be carefully considered. For instance, is client confidentiality adequately protected if email traffic is randomly selected and monitored by an employer? This

¹⁵ Plekhanov, D.; Franke, H.; Netland, T. H., *Digital transformation: A review and research agenda*, European Management Journal, 41(1), 2023, p. 57.

¹⁶ Barr-Pulliam, D.; Brown-Liburd, H. L.; Munoko, I., *The effects of person-specific, task, and environmental factors on digital transformation and innovation in auditing*, Journal of International Financial Management & Accounting, 33(1), 2022, p. 6.

¹⁷ Reier Forradellas, R. F.; Garay Gallastegui, L. M., *Digital transformation and artificial intelligence applied to business: Legal regulations, economic impact and perspective*, Laws, 10(3), 2021, p. 50.

question poses significant concerns regarding privacy rights and the integrity of attorney-client communications. Furthermore, what are the potential risks and implications if the technology in use is breached or compromised in any way? Such breaches could lead to unauthorized access to sensitive legal information, with potentially damaging consequences for clients and lawyers alike.¹⁸ Additionally, is the software used within the legal field being distributed and utilized in a manner that is fair and equitable to all parties involved? Lastly, can it truly be considered just or fair for the legal system if lawyers are equipped with tools that, perhaps unwittingly, have the capacity to discriminate against certain individuals or groups? These pressing questions highlight the need for a thorough examination of the intersection between technology and ethics in the legal landscape.¹⁹

The question of how technology is revolutionizing the operation of the legal profession inevitably raises profound ethical issues. It is precisely with these critical questions that it should be centered in the realm of "law" – specifically, this should pertain directly to the legal profession as a whole. The increasing use of various technologies highlights and underscores the importance of these ethical considerations. Each and every day, lawyers grapple with the challenging task of ensuring that their services remain accessible and available to those who require them, all while also striving to earn a livelihood. This complex dilemma has always been a persistent issue within the field. There is absolutely no doubt that advancements in technology can provide significant assistance to lawyers in this particular regard. Furthermore, it also opens up the avenue for supplying legal services to a much broader and more diverse range of people. This text additionally examines the potentially dangerous aspects of technology in relation to these ethical inquiries. There are numerous innovative ways to utilize technology effectively to streamline and enhance the legal service offering; however, extensive improvements have yet to be fully realized and implemented. It is crucial to recognize that technology, while beneficial, cannot serve as the sole standard for legal oversight and evaluation, especially when viewed through the lens of a socioeconomic analysis.²⁰

¹⁸ Dąbrowska, J.; Almpantopoulou, A.; Brem, A., *Digital transformation, for better or worse: a critical multi-level research agenda*, R&D Management, 52(2), 2022, p. 178.

¹⁹ Weber-Lewerenz, B., *Corporate digital responsibility (CDR) in construction engineering—ethical guidelines for the application of digital transformation and artificial intelligence (AI)*, SN Applied Sciences, 3(4), 2021, p. 160.

²⁰ Vermesan, O.; Bacquet, J., *Cognitive hyperconnected digital transformation: Internet of things intelligence evolution*, Journal of Internet of Things, 6(3), 2022, p. 54.

4.1. Confidentiality and Data Protection

It goes without saying that ensuring confidentiality has always been an important part of the professional code of conduct for lawyers. Clients are supposed to place trust and confidence in their legal advisors. Protecting information within a lawyer-client relationship can be seen as one of the most essential ethical requirements for the lawyer. Legal tech, however, often involves dealing with sensitive and confidential data. For some legal tech tools, clients might not be able to determine whether data protection requirements are being met. Digital communication and electronic storage of files have become the standard in everyday work today. New forms of communication and digital record-keeping pose substantial risks if sensitive client data is involved. They are supposed to provide legal professionals and/or law firms with lawful and appropriate measures to protect them and, at the same time, store them on an ongoing and long-term basis.²¹

Hence, data breaches or security incidents are a considerable threat if not a certainty in the legal field today. In the European context, the most important framework for the protection of personal data can be found in the General Data Protection Regulation. The regulation obliges all natural persons and legal entities such as legal professionals to comply with statutory provisions concerning the processing of personal data and the protection of individual rights. In the lawyering context, professional laws, codes of professional conduct, and case law can be relevant not only for the question of whether lawyers are allowed to store data in the cloud but also with respect to who may be held accountable in cases of data protection breaches. Best practices to ensure confidentiality when dealing with legal tech include the use of secure communication channels and the encryption of correspondence made via email or storage services by legal tech tools. Legally binding confidentiality agreements should accompany every cloud service contract. Ideally, by securing the tools involved to a high standard, the lawyer can also avoid problems when and if the latter lends their client's data access to multiple third parties. In practical terms, this is done by granting access to third parties like expert witnesses on a one-time or short-term basis such permission remains in the lawyer's hands and should be temporary and traceable.²² While the legal profession seems to slowly adjust, it is, however, undeniable that several things such as awareness, education, or training currently represent a crucial issue within the sector. A lack of specific training and ongoing training for professionals can have a detrimental impact on the protection of data. Its protection

²¹ Barroso, M.; Laborda, J., *Digital transformation and the emergence of the Fintech sector: Systematic literature review*, Digital Business, 2(2), 2022, p. 28.

²² Klochan, V.; Piliaiev, I.; Sydorenko, S., *Digital Platforms in Public Administration*, Journal of Information Technology & Politics, 18(2), 2021, p. 212.

should, however, be of paramount concern for all lawyers when dealing with digitalization, as a failure to meet these requirements can potentially and permanently destroy a client's trust in the legal profession. Ensuring the technological expertise of practitioners and providing them with the relevant resources, tools, and expertise in legal tech is just as important to be able to meet the new digitized needs of clients. The distinction between the lawyers who advocate for a system that values security and accountability in the digital world, among others, and those who do not, will be noticeable when outcomes in the personal and business worlds occur, as well.²³

4.2. Bias and Discrimination

While much has been written about the potential of legal technology replacing elements of work that are today done by lawyers, there is far less discussion circling some of the more contentious issues. Bias and discrimination are core components of the emerging field of AI ethics. This is largely the result of increasing public awareness of the potential human rights implications of AI and machine learning, particularly with respect to fairness. Prevailing views of AI and machine learning suggest that despite good intentions, the finished product may not always be entirely 'neutral.' Instead, they may be inadvertently trained on data that reflects societal biases, entrenching them within the algorithmic decision-making system.²⁴

Inappropriately used, legal technology may result in systematic different treatment of different clients based on race, gender, or socioeconomic status. While the threat, on the one hand, is of individual bias in legal service provision, the threat, on the other hand, is of systematic bias in using legal technology. At the very least, there is a strong argument that lawyers have an ethical obligation to be aware that it is possible that the use of legal technology could lead to unequal treatment of clients. Even where bias is inevitable, however, transparency can help technology conform to the requirements of fairness. As lawmakers cannot strike algorithmic bias at the root, they need to devise proceedings to minimize the impact of any bias upon which algorithms are built, especially if they are employed by legal professionals. Concretely, it is important that if the output of an algorithm is used by a legal professional to make decisions that affect a person's legal rights, there is transparency concerning the key determinants of these decisions. The necessity of transparency implies an obligation upon legal practitioners to keep abreast of

²³ Reier Forradellas, R. F.; Garay Gallastegui, L. M., *op. cit.*, p. 45.

²⁴ Popa Tache, C. E.; Săraru, C. S., *Evaluating today's multi-dependencies in digital transformation, corporate governance and public international law triad*, Cogent Social Sciences, 10(1), 2024, p. 13.

how legal technology works so that they can scrutinize it. Legal practitioners must become astute tech intermediaries. A final qualitative consideration is whether using legal tech to interact with the legal system could lead to a less inclusive forum. A court assisted by a legal AI which understands only one language may well become flagrantly discriminatory. The upside of this is that AI can also be used to address these equality concerns; for example, an AI that possesses the abilities of any human judge is, in theory, better suited than humans to provide equal access to justice, as an AI could well demonstrate that the characteristics of being human are irrelevant to the task of deciding court cases since they can just as easily be simulated by men and women alike. If this can be done, there may be potential equality arguments in favor of using AI. Given the central and new nature of this topic, there are no definite solutions. It is clear that legal professionals have a long road ahead of them to catch up. The most important issue is therefore to increasingly sensitize legal professionals to these problems, thus ensuring a more responsible legal practice in digital times.²⁵

5. EFFICIENCY VS. ETHICAL COMPLIANCE

From a critical legal perspective, the rapid integration of digital tools challenges foundational legal values. While efficiency gains are undeniable, they must be carefully balanced against risks of due automation bias, and unequal access to justice. Current legal frameworks often lag behind these transformations, highlighting a normative gap in technology law.²⁶

Legality, in the sense of conformity to the law and ethical standards, is one of the prime concerns of the legal profession. While different values that lawyers need to strive for, such as legality and efficiency of processes, act in complementary ways, the quest for efficiency can actually steer communication strategies away from legality. The use of automation and artificial intelligence can create the impression that law could and should be automated in its entirety. Legal practices are increasingly relying on legal tech tools or creating spin-offs to use those tools in the field of law. Conversations often reveal the motivation for this development as the drive for efficiency and the hope for cost savings. Thus, it seems important to scrutinize potential problems arising in the field of ethical compliance.²⁷

²⁵ Iyelolu, T. V.; Agu, E. E.; Idemudia, C., *Legal innovations in FinTech*, Journal of Finance & Accounting Research, 6(2), 2024, p. 83.

²⁶ Weber-Lewerenz, B., *op. cit.*, p. 160.

²⁷ Popa Tache, C. E.; Săraru, C. S., *op. cit.*, p. 18.

In order to provide a more systematic way of thinking about professional responsibility in individual use cases for new technologies, one should reflect upon specific areas relating to legal work where automation or artificial intelligence is employed. Such areas can be seen, for instance, in assembly line due diligence reviews for law firms or companies, in legal market search apps, the automated contract conclusion, valuation of cases, and predictions of case outcomes. We will see that, on the one hand, the automated algorithm does outperform humans due to their reduced cognitive bias and their speed in arriving at results. Efforts that reduce the heavy burden on the legal system or help to make law more palatable seem attractive. On the other hand, there is criticism of the talk of the importance of efficiency as a replacement for any other reliable legal thinking of value. Valuing law only based on its economic relevance transmutes the legal profession into a business that behaves unreliably. The quest for market potential and economic efficiency as natural goals of technological evolution threatens independence, functional judgment, and the trustworthiness of legal indications. Not only do they have the potential of making it seem easier to act illegally, but they maintain a bias towards those who can afford it. Even the adherence to humanist principles would appear in a different light. From this, it follows that those who have accepted law based on economic efficiency were never ethical agents in the first place. The compatibility or non-compatibility of digitalization with ethical guidelines and professional conduct are hence open to professional scrutiny. A simple cost-benefit analysis approach, therefore, implicitly endorses a normalized violation of law. With arguments that punishment is counterproductive and economically unproductive, it does not seem necessary to re-establish a leaked rule of law if technical devices of efficiency still are. Criminal lawyers react vehemently, as they assume that rules and rights justifying the law had already eroded. The promise of increased efficiency does not fully address the aim that should be pursued in legal matters, which is the securing of appropriate dispute outcomes and interests according to law. An ethically oriented upholding of such accounts fundamentally questions the adequacy of law firms practicing law as if it were an industry. The characteristics of efficiency technologies need to be shaped in a way that safeguards the appeal of legal work beyond the appeal of making money. Ultimately, the question lingers as to whether, concerning the most recent digital enhancements and threats, a premium could be put on good judgment. Financial losses that strict adherence to ethics would entail may not necessarily be seen as solely thoroughgoing. For this reason, spurring on a discussion about the scope of ethics in new technologies can be seen as an indirect request or plea for economic innovation. This does not involve wanting to stop progress for economic motives, but to scrutinize and define it, so that it fits its broader and more complex deontological function.²⁸

²⁸ Weber-Lewerenz, B., *op. cit.*, p. 147.

5.1. Automation and AI in Legal Services

The main use of automation and AI for operational decision support in the organization of legal services is predicted to occur in the area of document review, followed by legal research and due diligence processes, as well as drafting. An analysis has highlighted that these processes are severely effective regarding human intervention, as a significant portion of legal work in the document review and legal research phases is spent searching. This indicates that automation and AI feed into existing legal processes to enhance their efficiency instead of transforming them. Nevertheless, these processes are expected to have radical implications for the organization and competition of legal services. Law firms can use automation and AI technologies to handle larger volumes of work with reduced human effort and partly customize their services by employing the data they collect during their use. In a specific application, lawyers record their professional skills in their personal profiles, in particular all their competencies, practice languages, and even the dates of their holidays. As lawyers check their availability and interest in a case, clients are then automatically matched with a lawyer or a team of lawyers who have the skills and experience required. However, the clients must wait several working days for the first feedback. Furthermore, this may generate risks of deskilling in two phases of the spectrum of the organization of work in the legal profession: within the pool of lawyers and outside of the profession, in the market of legal services. It has been suggested that AI could de-skill human operators by doing their jobs. At the level of the individual worker, the use of such tools may prevent junior staff from learning new skills. If this process extends to the whole field of lawyers, the entire profession might become more dependent on the AI system, thus reinforcing the process of de-skilling. This may entail a further devaluation of the value of legal services, considered a mere support for algorithmic decision-making. It can be argued that automation and AI have the potential to accomplish the value that they are expected to provide only if they are subjected to organizational and professional oversight. AI systems are complex to understand, and when they are provided by commercial vendors, users may not have access to the source code. As legal professionals increase their use of AI, there is a professional duty of care obligation for lawyers. Duty of care professionals are required to act as expected by a reasonable person of ordinary competence exercising a similar profession. This duty could translate to an obligation for lawyers to have some control over the AI tools entrusted, even in part, to the care of a third-party vendor. The need for transparency in AI algorithmic decision-making is being debated both at the European and international levels, also in the context of AI systems developed for legal practice. The possibility for the provision of "adequate explanations" of the content given

by the AI enquirers, likely drawing on court decisions, is a tool for managing ex-ante and ex-post legality and the economic sustainability of the strategy for civil justice. This point will be addressed in the next section by referring to these examples.²⁹

5.2. Professional Responsibility

Professional responsibility requires professional service to be offered according to the standards of a profession. The attorney-client regulation is embedded in the duty – and at the same time the right – of a legal professional to ensure or at least seek his or her own economic survival. But exactly what does call for rightful professional service? By what standards must professional service benefit be legally approved? Professional responsibility does represent a duty; but to whom? Is it to clients or colleagues/competitors, the profession as such, the public, or the operational system at large? Also, could findings be different depending upon the kind of legal services handled, i.e., in respect of legal advice or counsel, do norms and discretion differ from those concerning the administration of procedural acts before tribunals or negotiation assistance on behalf of parties wanting to resolve their disputes?³⁰

Professional responsibility is determined by legitimate requirements generally and by ethical standards specifically as these are accepted within a professional legal service community. Legal services, indeed the scope of operational action required to ensure professional and economic well-being, are not only the subject of unfailing ethical debate, but they are also having to be renegotiated in a concrete way in wishful legislatures. The question is whether we can live with that. Professionals, in this particular case of lawyers, are supposed to ensure quality services in order to safeguard the welfare of their clients as well as of their opponents. This is even more an ethical question than a legal requirement. The problem is that where means of professional service are changing, our role becomes even more important, and by offering an evolving situation to the public at large, we are facing difficult ethical dilemmas that have to be managed in respect of our independence at large and mostly in the assessment of our own economic advantage and safeguard. It is clear that innovating services might also be seen as a potential conflict of influence with the interests of the clients if their development and application involve, on one hand, the acceptance of regulatory challenges with the public and the regulators in a discretionary manner and, on the other hand, a

²⁹ Reier Forradellas, R. F.; Garay Gallastegui, L. M., *op. cit.*, p. 65.

³⁰ Chen, C. L.; Lin, Y. C.; Chen, W. H.; Chao, C. F. et al., *Role of government to enhance digital transformation in small service business*, Sustainability, 13(18), 2021, p. 10212.

risk assessment to the public at large within an evaluation of the risk-benefit ratio.³¹

6. ACCESS TO JUSTICE IN THE DIGITAL AGE

"In a world where the purchase of dispute resolution packages is just one click away, the entry barriers for some parties to access legal systems have been reduced thanks to technologies." Online dispute resolution (ODR) is making it much easier for people to file lawsuits or challenge official acts. Technology can especially build bridges between people who are fundamentally excluded from traditional legal aid and the digital realm. A larger element of the population is seeking assistance. Several elements of the population are excluded from traditional legal assistance and "machines assist more than men." In addition to automating existing justice services, technology is also making free legal aid accessible to anyone with a compatible gadget. Pro bono services provided on digital platforms directly support inclusive participatory projects.³²

The chapter's various initiatives illustrate how the app-based provision of pro bono services can broaden justice access and foster inclusivity. However, all advocates agree on one thing: there is no room or justification for complacency. "We must be proactive in dealing with these hurdles." Technologies can serve as enablers of access to justice, but they can also act as disincentives. Some suggest that the danger is that changes in people's lives caused by the lockdown and social distancing will fuel the development of a culture of risk avoidance and exclusion of unpopular consumers. Legal professionals must alter the current notions of justice and grow to meet the demand for normality. They must make a firm commitment to justice.³³

6.1. Online Dispute Resolution

Online Dispute Resolution (ODR) refers to the innovative use of online technology and various techniques designed specifically to resolve conflicts that may arise between individuals and companies, whether or not they are utilizing the assistance of specialists who are trained in different dispute resolution

³¹ Gkrimpizi, T.; Peristeras, V.; Magnisalis, I., *Classification of barriers to digital transformation in higher education institutions*, Education Sciences, 13(1), 2023, p. 20.

³² Saeed, S.; Altamimi, S. A.; Alkayyal, N. A.; Alshehri, E., *Digital transformation and cybersecurity challenges for business resilience: Issues and recommendations*, Sensors, 23(2), 2023, p. 687.

³³ Chen, C. L.; Lin, Y. C.; Chen, W. H.; Chao, C. F. et al., *op. cit.*, p. 10218.

techniques. ODR represents an interdisciplinary field that effectively employs the essential tools and methodologies of Alternative Dispute Resolution (ADR) to address and resolve disputes through electronic means. ODR takes full advantage of the speed, unparalleled convenience, and extensive global reach provided by the internet to discover and implement new approaches aimed at reducing disputes while also resolving them in a manner that is fair, secure, efficient, and inexpensive. This approach to resolving conflicts ultimately aims to enhance trust and confidence in the entire dispute resolution process, leading to a significantly higher level of completion and satisfaction regarding online transactions that take place in today's digital marketplace.³⁴

This innovative approach allows online transactions to be conducted with remarkable speed, efficiency, and heightened security. In addition to its primary functions, ODR can supplement and enhance traditional venues for resolving disputes, offering new and varied options for consumers, including families and small businesses, who seek to resolve their disputes without the need for hiring a lawyer or going through the often cumbersome process of small claims court. Many new online services are continuously emerging, actively providing dispute resolution options for individuals and companies that find themselves involved in business-to-business disputes. The most likely candidates for such services at present appear to be disputes relating to electronic fund transfers; however, other areas of potential use for ODR are continually expanding to include sectors such as e-commerce, e-procurement, e-employment, and e-government interactions. The remarkable ease of access to the internet, along with the widespread use of email, can significantly save users not only time but also money, creating a more efficient process for addressing disputes as they arise.³⁵

6.2. Pro Bono Services

Pro bono services significantly contribute to enhancing access to justice. As a result of digitalization, these services are facing yet another transformation. In this sense, e-pro bono offers opportunities to accommodate even tech-savvy legal professionals serving through online platforms. Yet, the challenges for combating injustice remain. Whether pro bono work can serve alongside these developments depends on initiatives, legal standards, and continued discussions – just as before. It appears that digital change, yet again, calls out for consistent effort to overcome the hangovers of a narrow focus on economic efficiency, especially in fields where

³⁴ Weber-Lewerenz, B., *op. cit.*, p. 155.

³⁵ Schneider, S.; Kokshagina, O., *Digital transformation: What we have learned (thus far) and what is next*, Creativity and Innovation Management, 30(4), 2021, p. 734.

access to justice is a key aim. This, however, is not new – both experienced pro bono practitioners and researchers agree that any talk of reaching meaningful justice effects by mere leverage of technology, be it asynchronous advice provision or other service forms, makes little sense when quality provision and comprehension needs are brought into view.³⁶

In its traditional understanding, a pro bono lawyer is an attorney who consults, drafts, and negotiates without charging (part of) his or her regular fee. It is disputed, however, which services should be encompassed by this label: Should contingent fee agreements be considered as pro bono or are they excluded given the risk aspects for which these services are compensated? Pro bono contributions are thought to enhance inclusive legal systems. This sounds even more evident for the general significance of pro bono contributions when combined with the other trans- and multidisciplinary services required in light of the most recent technology that besets many people's everyday lives. This will probably entail a greater role of paralegals, law students, conciliators, mediators, and community workers serving as contact persons.³⁷

7. CASE STUDIES AND BEST PRACTICES

In the preceding chapters, we have seen that there are benefits to be obtained from digitalization in the legal profession, but also that it can be relatively hard to achieve these benefits. In this chapter, we take a look at a number of case studies and best practices. These examples can serve as inspiration and help legal professionals make decisions about what kind of digital tools to invest in. The examples in this chapter show how different law firms and organizations are reaping the rewards of digitalization in a variety of ways. We will touch on examples of document automation, company database management, handling email, creating standardized rules-based documentation, managing clients, running a law firm through the cloud, and managing large-scale legal projects. For different types of activities, these organizations and law firms are using digital tools and solutions obtained in the market and are transferring this to digital technology in the legal profession. The examples reflect their experiences, good and bad, of running such digitalization projects in their organizations. As well as discussing the different benefits it can bring, we will also consider the best strategies to use and the common pitfalls in digitalization processes. The use of digital tools has introduced change to the organizations that have implemented the

³⁶ Hafnawi, B., *Regulating digital transformation: technologies, scenarios, and contracts*, in: *Contracting for Digital Transformation and Industry 4.0*, 2021, p. 57.

³⁷ Weber-Lewerenz, B., *op. cit.*, p. 157.

tools to different extents, and it is the results of this change that are highlighted in this chapter.³⁸

7.1. Successful Implementations

Impressions Prof. Dr. Leon Kopecky

7.1.1. Successful Implementations

I would like to begin my discussion with several successful implementations that have taken place across various legal frameworks and sectors. These noteworthy examples include the following: 1) The implementation of an innovative online disputes tribunal specifically designed for managing motor vehicle-related cases in Australia. 2) The comprehensive digital transformation of the legal department within the renowned TRUMPF Group. 3) Insights into how to create the absolute best case record that can prove vital for legal proceedings. 4) The implementation of eDiscovery processes in a well-regarded European law firm, showcasing advancements in digital evidence management. 5) Addressing the concept of the digital afterlife of clients, a significant yet often overlooked aspect. The individual use cases presented here clearly illustrate a fundamental point: the successful integration of a tailored digital solution can provide substantial advantages, yielding double benefits not only for the law firm or legal department involved but also, as a direct result, for the client receiving legal assistance.³⁹

1) An online dispute tribunal significantly increases the efficiency in handling disputes and ensures that no complaint, big or small, remains unattended or falls through the cracks. This aspect is particularly interesting and valuable in business-to-consumer (B2C) contexts, where the initial example predominantly focuses its attention. With the rise of digital interactions, having an effective online dispute resolution mechanism in place enhances customer trust and satisfaction, thereby playing a critical role in the overall customer experience. 2) Both law firms and legal departments illustrate, through their various implementations, how the strategic integration of an e-discovery solution not only enhances their operational

³⁸ Aben, T. A. E.; Van der Valk, W.; Roehrich, J. K., *Managing information asymmetry in public-private relationships undergoing a digital transformation: the role of contractual and relational governance*, International Journal of Operations & Production Management, 41(13), 2021, p. 27.

³⁹ Zafar, A., *Balancing the scale: navigating ethical and practical challenges of artificial intelligence (AI) integration in legal practices*, Discover Artificial Intelligence, 2(1), 2024, p. 22.

efficiency to process vast quantities of documents in a much quicker manner but also serves to demonstrate their trustworthiness and unwavering commitment to their clients. By imposing security measures from the very outset in the proposed integration of these technologies, their approaches strongly indicate that in today's fast-paced digital world, the two solutions not only can but indeed must interact seamlessly to deliver the optimal level of legal service. 3) The insightful case study from the corporate counsel perspective strongly emphasizes the towering power of knowledge management as a critical asset. As the renowned company TRUMPF recognized that many in-house topics were being "treated inefficiently," fostering and reusing knowledge became crucial for their operations. By establishing a robust knowledge database, they are able not only to strengthen the bargaining positions of various stakeholders but have also embarked on an exciting new journey towards a more efficient future. Additionally, all existing fragmented and role-based systems are effectively consolidated through the powerful capabilities of Microsoft SharePoint, allowing for seamless information flow and collaboration.⁴⁰

7.2. Lessons Learned

It became apparent very quickly that practitioners are keenly interested in the diverse experiences of others who have already undergone digitalization or who were actively planning to embark on digitalization projects. The various contributions shared during discussions highlighted a number of recurring challenges that consistently emerged, above all motivating the entire institution as a whole and effectively convincing all staff members to embrace and use digital tools. This was typically found to be a transformative journey rather than just an easy win that could be achieved overnight. It was absolutely necessary to prepare staff and colleagues comprehensively for the introduction of digital tools through well-structured initial awareness and training sessions, along with ongoing support that continued beyond the implementation phase. Helpful strategies included discussing and thoughtfully integrating digitalization options in formal law firms as well as in public-sector policy frameworks. It was indeed generally necessary to ensure that it was perceived as "worth the while" of everyone involved to fully commit to the change process: traditional law firms needed to see benefits through updated business models, data protection officers required incentives through career promotion and additional budget allocations, and researchers, along with

⁴⁰ Barroso, M.; Laborda, J., *op. cit.*, p. 28.

scientific staff, benefited from having their work facilitated and made easier through these digital advancements.⁴¹

The various contributions presented have also placed significant emphasis on the paramount importance of utilizing video tools, engaging in learning by doing, facilitating the process of making mistakes, designing user interfaces that are intuitive, implementing robust feedback mechanisms, and effectively managing the unpredictable variables that arise when dealing with people in digitalization projects. It is essential that digitalization efforts within the legal discipline are intricately linked to a clear vision and aligned strategic goals, pursued diligently in accordance with these relevant objectives. Furthermore, it is crucial that peers are actively encouraged to prioritize appropriate resources and to identify the tangible benefits that digitalization can offer. Lastly, an emerging legal term has surfaced: "deepfake," a concept that contributors strongly believe we should proactively prepare for, given its implications. The rapid evolution of technology poses challenges, as it often leads to the obsolescence of existing tools in a remarkably short timeframe. The digital tools that are currently available today are likely to be viewed as outdated and subsequently replaced sooner or later, while simultaneously opening up new horizons and opportunities in the field. It is noteworthy that despite this rapid pace of change, a diverse range of digital tools is, however, already in relatively common use, primarily aimed at conducting business and legal activities in a more streamlined and efficient manner.⁴²

8. CONCLUSION

Incorroboration with the analysis in the previous chapters clearly shows that digitalization within the legal profession presents a multitude of legal, economic, and ethical challenges that need to be carefully considered by lawyers, legal practitioners, and legal service providers alike. On the one hand, digitalization offers a remarkable opportunity for lawyers to economize their precious time when it comes to conducting routine tasks and administrative work on behalf of their clients. This enhancement in efficiency could allow them to focus more on strategic and complex legal issues rather than getting bogged down by the mundane aspects of their daily operations. On the other hand, however, the onset of digitalization may also lead to a myriad of potential legal and ethical risks that can present significant challenges, potentially complicating the landscape for all those involved in the legal profession. Addressing these complex challenges is

⁴¹ Mokofe, W. M., *Digital Transformations of the South African Legal Landscape*, Journal of Digital Technologies and Law, 2(1), 2023, p. 30.

⁴² Celeste, E.; Formici, G., *Constitutionalizing Mass Surveillance in the EU: Civil Society Demands, Judicial Activism, and Legislative Inertia*, German Law Journal, 25(3), 2024, p. 439.

vital, as the advancements stemming from digitalization do not inherently restrict or even prevent lawyers, legal practitioners, and other stakeholders from engaging in the digitalization process. Instead, what is required is an informed and knowledgeable approach to navigating this digital transformation, allowing them to effectively meet the necessary demands of legality while simultaneously achieving economic efficiency in their operations.⁴³

In addition, the integration of digital technology significantly brings to the fore new and complex features of software ethics that are particularly relevant for the legal profession. This integration not only highlights the importance of ethical standards but also poses a challenge that requires lawyers to consciously position themselves as ethical actors who actively fulfill the ethical principles essential for respecting the freedom and dignity of their clients. Additionally, it is imperative that they take on the responsibility of protecting society from the potential negative impacts that can arise from the rapid pace of digitalization in various sectors, including their own. To some extent, this means that the era dominated by AI and deep learning is pushing legal professionals to acquire essential skills in digital legal literacy, alongside a firm grounding in digital legal ethics. This trend strongly concludes that the legal profession needs to be subject to active management and oversight during the ongoing digitalization process. This need is driven not only by the increasing administrative burdens imposed by relevant legal authorities but also by the significant implications that stem from potential ethical violations, which must be proactively anticipated during the digital transformation of the legal sector. For ethical and practical reasons, continual advancements in machine learning and AI systems within the legal profession now necessitate the active involvement of all stakeholders. This includes not only legal practitioners but also relevant regulatory bodies and society itself. Together, these stakeholders must work collaboratively to create a harmonious and equitable balance between legality and economic efficiency throughout the digitalization of the legal profession. It is equally important to recognize and clarify that the era defined by digitalization does not signal the end of the legal profession as we know it. Instead, it represents the beginning of a series of aggressive and necessary adjustments in an era where technology increasingly becomes not just a tool but the very heart of the legal profession itself, redefining its landscape and future.⁴⁴

⁴³ Bawa, Z.; Rathore, K. S., *Corporate Governance in the Era of Digital Transformation: Evaluating the Impact of Emerging Technologies on Organizational Strategies*, Business Strategy Review, 35(1), 2024, p. 80.

⁴⁴ Ruslan, S., *Challenges and Opportunities for Legal Practice and the Legal Profession in the Cyber Age*, International Journal of Law and Policy, 12(3), 2023, p. 248.

According to the research, while digitalization enhances efficiency in legal workflows, it also poses significant ethical and legal compliance challenges, especially regarding the deployment of AI for legal reasoning and data handling. While technology increases access to legal services, it risks widening inequality due to algorithmic bias and lack of transparency. These findings suggest a need for updated regulatory frameworks and a more ethically integration of digital tools. While this paper provides foundational insight into the digitalization of the legal profession, it is limited by the absence of empirical fieldwork and jurisdictional constraints. Future research should focus on empirical analysis, especially involving comparative legal systems, and collect data from law firms and judicial bodies to assess real-world application of legal tech innovations.

REFERENCES

BOOKS AND ARTICLES

1. Aben, T. A. E.; Van der Valk, W.; Roehrich, J. K., *Managing information asymmetry in public-private relationships undergoing a digital transformation: the role of contractual and relational governance*, International Journal of Operations & Production Management, 41(13), 2021, pp. 1–27.
2. Akpobome, O., *The Impact of Emerging Technologies on Legal Frameworks: A Model for Adaptive Regulation*, International Journal of Research Publication and Reviews, 5(4), 2024, pp. 123–135.
3. Akpuokwe, C. U.; Adeniyi, A. O.; Bakare, S. S., *Legal challenges of artificial intelligence and robotics: a comprehensive review*, Computer Science & IT Research Journal, 5(3), 2024, pp. 45–58.
4. Babikian, J., *Navigating legal frontiers: exploring emerging issues in cyber law*, Revista Española de Documentación Científica, 17(2), 2023, pp. 95–109.
5. Barroso, M.; Laborda, J., *Digital transformation and the emergence of the Fintech sector: Systematic literature review*, Digital Business, 2(2), 2022, p. 28.
6. Barr-Pulliam, D.; Brown-Liburd, H. L.; Munoko, I., *The effects of person-specific, task, and environmental factors on digital transformation and innovation in auditing*, Journal of International Financial Management & Accounting, 33(1), 2022, pp. 3–25.
7. Bawa, Z.; Rathore, K. S., *Corporate Governance in the Era of Digital Transformation: Evaluating the Impact of Emerging Technologies on Organizational Strategies*, Business Strategy Review, 35(1), 2024, pp. 67–80.

8. Bilić, A., *The impact of COVID-certificates on the right to work and the labor law status of workers in the Republic of Croatia*, Collected Papers of the Faculty of Law in Split, Vol. 59, No. 3, 2022, pp. 539–562.
9. Celeste, E.; Formici, G., *Constitutionalizing Mass Surveillance in the EU: Civil Society Demands, Judicial Activism, and Legislative Inertia*, German Law Journal, 25(3), 2024, pp. 427–446.
10. Chen, C. L.; Lin, Y. C.; Chen, W. H.; Chao, C. F. et al., *Role of government to enhance digital transformation in small service business*, Sustainability, 13(18), 2021, pp. 10200–10218.
11. Dąbrowska, J.; Almpantopoulou, A.; Brem, A., *Digital transformation, for better or worse: a critical multi-level research agenda*, R&D Management, 52(2), 2022, pp. 165–180.
12. Gkrimpizi, T.; Peristeras, V.; Magnisalis, I., *Classification of barriers to digital transformation in higher education institutions*, Education Sciences, 13(1), 2023, p. 20.
13. Golia Jr, A., *The Transformative Potential of Meta's Oversight Board*, Indiana Journal of Global Legal Studies, 30(1), 2023, pp. 123–144.
14. Gromova, E. A.; Koneva, N. S., *Legal barriers to the implementation of digital industry (Industry 4.0) components*, The Journal of World Economy, 2022, pp. 67–84.
15. Hafnawi, B., *Regulating digital transformation: technologies, scenarios, and contracts*, in: Contracting for Digital Transformation and Industry 4.0, 2021, pp. 45–60.
16. Iyelolu, T. V.; Agu, E. E.; Idemudia, C., *Legal innovations in FinTech*, Journal of Finance & Accounting Research, 6(2), 2024, pp. 75–92.
17. Klochan, V.; Piliaiev, I.; Sydorenko, S., *Digital Platforms in Public Administration*, Journal of Information Technology & Politics, 18(2), 2021, pp. 201–220.
18. Lescrauwaet, L.; Wagner, H.; Yoon, C., *Adaptive legal frameworks in emerging technologies*, Law and Economics Review, 14(4), 2022, pp. 311–328.
19. Lino, A. F.; Aquino, A. C. B.; Neves, F. R., *Accountants' postures under compulsory digital transformation imposed by government oversight authorities*, Financial Accountability & Management, 38(4), 2022, pp. 512–530.
20. Mokofe, W. M., *Digital Transformations of the South African Legal Landscape*, Journal of Digital Technologies and Law, 2(1), 2023, pp. 25–40.
21. Nguyen, M. T.; Tran, M. Q., *Balancing security and privacy in the digital age: an in-depth analysis of legal and regulatory frameworks impacting cybersecurity practices*, International Journal of Intelligent Systems, 39(2), 2023, pp. 210–229.

22. Plekhanov, D.; Franke, H.; Netland, T. H., *Digital transformation: A review and research agenda*, European Management Journal, 41(1), 2023, pp. 44–58.
23. Popa Tache, C. E.; Săraru, C. S., *Evaluating today's multi-dependencies in digital transformation, corporate governance and public international law triad*, Cogent Social Sciences, 10(1), 2024, pp. 1–18.
24. Reier Forradellas, R. F.; Garay Gallastegui, L. M., *Digital transformation and artificial intelligence applied to business: Legal regulations, economic impact and perspective*, Laws, 10(3), 2021, pp. 45–65.
25. Reis, O.; Eneh, N. E.; Ehimuan, B.; Anyanwu, A., *Privacy law challenges in the digital age: a global review of legislation and enforcement*, Journal of Applied Research in Legal Studies, 5(2), 2024, pp. 99–114.
26. Ruslan, S., *Challenges and Opportunities for Legal Practice and the Legal Profession in the Cyber Age*, International Journal of Law and Policy, 12(3), 2023, pp. 233–251.
27. Saeed, S.; Altamimi, S. A.; Alkayyal, N. A.; Alshehri, E., *Digital transformation and cybersecurity challenges for business resilience: Issues and recommendations*, Sensors, 23(2), 2023, pp. 675–690.
28. Schneider, S.; Kokshagina, O., *Digital transformation: What we have learned (thus far) and what is next*, Creativity and Innovation Management, 30(4), 2021, pp. 725–735.
29. Vermesan, O.; Bacquet, J., *Cognitive hyperconnected digital transformation: Internet of things intelligence evolution*, Journal of Internet of Things, 6(3), 2022, pp. 50–70.
30. Weber-Lewerenz, B., *Corporate digital responsibility (CDR) in construction engineering ethical guidelines for the application of digital transformation and artificial intelligence (AI)*, SN Applied Sciences, 3(4), 2021, pp. 145–160.
31. Zafar, A., *Balancing the scale: navigating ethical and practical challenges of artificial intelligence (AI) integration in legal practices*, Discover Artificial Intelligence, 2(1), 2024, p. 22.