

Reconstructing Legal Theory in the Digital Era: Ethical, Jurisprudential, and Regulatory Perspectives

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Abstract

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The rapid advancement of digital technologies has significantly reshaped social, economic, and legal relations, generating both opportunities and multifaceted ethical and regulatory challenges. Unclear standards in digital ethics, substantial legal gaps, and the growing urgency for jurisprudence reveal the limitations of traditional legal frameworks in addressing contemporary dilemmas such as algorithmic discrimination, privacy risks, data security, and accountability in automated decision-making. This research applies a systematic library-based method to examine the integration of ethical principles, jurisprudential perspectives, and adaptive regulatory strategies within the context of digital transformation. It further stresses the necessity of restructuring legal education to embed advanced digital literacy, technological proficiency, and ethical sensitivity, supported by cooperative initiatives involving governmental institutions, private sector stakeholders, and civil society. The findings show that principle-oriented adaptive regulation, combined with jurisprudential insights and multidisciplinary education, can establish a sustainable, fair, and effective digital legal system. The integration of ethical, legal, and technological perspectives is essential for ensuring responsible and just use of digital innovation.

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1. Introduction

Digital transformation has emerged as a global trend that deeply impacts multiple dimensions of human life, including business, governance, education, and wider social interaction. It is not limited to the adoption of new technologies or the use of modern digital tools, but also reflects a fundamental shift in mindset, operational models, organizational strategies, and the manner in which value and benefits are delivered to diverse stakeholders. Cutting-edge innovations such as big data, Artificial Intelligence (AI), blockchain, and the Internet of Things (IoT) have created significant opportunities to enhance efficiency, transparency, service creativity, and productivity across numerous fields. These advances enable institutions and governments to maximize data-based decision-making processes while offering services that are increasingly adaptive and responsive to public needs.¹

Nevertheless, the swift growth of digital technologies also introduces numerous critical challenges, particularly in ethical and legal dimensions. A central issue that has gained significant attention is the rise of intricate ethical uncertainties in the digital sphere. Digital environments frequently generate moral and social dilemmas that remain insufficiently regulated or unaddressed by conventional legal doctrines. Illustrations of this can be observed in pressing concerns such as safeguarding personal information, protecting user privacy, eliminating bias in algorithms, and ensuring accountability for outcomes produced by automated systems or intelligent technologies. The absence of regulations that are explicit,

¹ Loris Belcastro, Fabrizio Marozzo, Domenico Talia, and Paolo Trunfio. "Big data analysis on clouds." In *Handbook of big data technologies*. Cham: Springer International Publishing, (2017): 101-142.

comprehensive, and current results in confusion regarding the interpretation of rights, duties, and acceptable conduct for both users and digital industry stakeholders. This uncertainty is further intensified by diverse interpretations of cultural traditions, societal norms, and ethical standards across different communities, thereby necessitating a legal framework that is more adaptive, progressive, and responsive to local contexts while aligned with global realities.²

Beyond digital ethical uncertainty, regulatory shortcomings also emerge as pressing and strategic concerns. In numerous situations, legal instruments frequently trail behind the swift progression of technological advances. For instance, the rise of cryptocurrency, financial technology, social media platforms, and various digital business innovations has expanded much more rapidly than the capacity of laws and regulations to manage them effectively. This disparity produces legal loopholes that may be misused by certain actors, while simultaneously generating diverse social, economic, and legal risks. Within this context, jurisprudence or judicial rulings hold a crucial function. The demand for jurisprudence grows because existing statutory frameworks are insufficient or lack the specificity required to regulate newly emerging digital realities. Judicial decisions can bridge gaps in legislation, provide much-needed legal certainty, and act as a vital reference point for the continuing evolution of law.

Equally important, the presence of implementation gaps also emerges as a crucial issue. Numerous legal, technological, or digital regulatory initiatives that were

² Chris Thornhill, Carina Calabria, Rodrigo Cespedes, Dominic Dagbanja, and Elizabeth O'Loughlin. "Legal pluralism? Indigenous rights as legal constructs." *University of Toronto Law Journal* 68, no. 3 (2018): 440-493.

formulated with clear objectives are often not executed optimally in line with their intended targets. This condition produces a tangible disparity between the envisioned expectations or policy goals and the factual outcomes encountered in practice. Such circumstances are evident in the enforcement of personal data protection, the regulation of artificial intelligence applications in public governance, and the oversight of digital platforms, which until now remain inconsistent and less effective.

Within the Indonesian framework, establishing synergy among law, digital ethics, and legal education represents a strategic urgency. The contribution of jurisprudence, the reinforcement of adaptive and technology-oriented legal education, along with cooperative efforts uniting government, private institutions, and society, constitute essential elements for the advancement of digital law that is responsive, equitable, ethical, and inclusive. Consequently, this study seeks to examine the intricacies of digital ethics, regulatory shortcomings, and the significance of jurisprudence in addressing digital transformation in Indonesia by employing a literature review method, thereby presenting a comprehensive depiction of the challenges and strategies for legal adaptation in an era of constant digital change.

2. Literature Review

Research on digital transformation consistently highlights that digital technology drives essential shifts in organizational operations, stakeholder engagement, and the broader patterns of communication and social interaction.

According to Oftedal,³ digitalization not only delivers significant operational efficiency but also generates diverse complex ethical challenges, including concerns over data privacy, transparency in information utilization, and algorithmic accountability in automated decisions. It stresses that this condition requires serious attention from regulators and policymakers to ensure consistent digital ethics. Meanwhile, Ivanova,⁴ highlight the necessity of formulating progressive and adaptive legal frameworks to overcome the ethical norm gap in the digital sphere, since traditional laws are frequently insufficiently responsive to the rapid dynamics of technological change.

Regulatory gaps are a theme consistently discussed in the literature on digital law. Ahern,⁵ highlights the fact that current regulations often lag far behind the pace of technological innovation, especially in strategic sectors like fintech, social media platforms, and blockchain technology, which are developing very rapidly. This is in line with the findings of Blemus,⁶ who emphasize the importance of innovative mechanisms such as regulatory sandboxes and co-regulation to provide a testing ground for innovation while ensuring that laws remain relevant and can adapt to

³ Elin Merethe Oftedal, Lene Foss, and Tatiana Iakovleva. "Responsible for responsibility? A study of digital e-health startups." *Sustainability* 11, no. 19 (2019): 5433.

⁴ I. A. Ivanova, A. M. Odinaev, V. N. Pulyaeva, A. A. Gibadullin, and A. V. Vlasov. "The transformation of human capital during the transition to a digital environment." In *Journal of physics: Conference series*, 1515, no. 3, IOP Publishing, (2020): 032024.

⁵ Deirdre Ahern. "Regulatory lag, regulatory friction and regulatory transition as FinTech disablers: calibrating an EU response to the regulatory sandbox phenomenon." *European Business Organization Law Review* 22, no. 3 (2021): 395-432.

⁶ Stéphane Blemus. "Law and blockchain: A legal perspective on current regulatory trends worldwide." *Revue Trimestrielle de Droit Financier (Corporate Finance and Capital Markets Law Review)* RTDF 4-2017 (2017).

technological progress. Both studies show that a flexible regulatory approach is key to reducing social and economic risks due to legal lag.

Within the realm of jurisprudence, scholarly sources reveal that judicial rulings frequently act as the primary reference whenever existing legislation is insufficient or lacks specificity in regulating digital phenomena. Jurisprudence not only provides legal certainty and ensures consistency of judgments but also functions as a crucial guideline in shaping responsive digital law. Rulings involving digital defamation, copyright violations, and online content regulation indicate that judges increasingly apply a contextual method, reinterpreting outdated provisions to remain applicable in the constantly evolving digital environment. Moreover, legal education literature underscores the urgency of comprehensive curriculum reconstruction. Law students need to acquire strong digital literacy, adequate technological skills, and an appreciation of digital ethics in order to confront legal issues emerging during digital transformation.

Designing technology-oriented learning modules, virtual simulations, and ongoing professional training for lecturers are strategic efforts for fostering sustainable and adaptive digital legal competence. The existing body of research highlights a strong interconnection among digital transformation, regulatory shortcomings, ethical ambiguities, and the demand for progressive jurisprudence. Collaborative initiatives across government institutions, private sectors, and civil society, combined with the incorporation of adaptive legal education focused on technology and ethical values, represent essential strategies to manage digital law challenges effectively, equitably, and sustainably.

3. Methods

The research applies a literature study or library research method, which constitutes a research approach centered on textual sources. This method systematically entails gathering, evaluating, and analyzing secondary literature pertinent to the study's focus, including digital transformation, digital ethics, regulatory gaps, jurisprudence, and legal education. The sources employed consist of diverse academic and professional materials, such as internationally recognized scholarly books, indexed journals, articles produced by higher education institutions, national and international legal instruments, and official publications from reputable global organizations specializing in law and technology. Through the literature study, researchers are able to obtain a more profound understanding of theoretical progress, regulatory patterns, and jurisprudential practices in the increasingly intricate digital sphere.

This method also facilitates the identification of knowledge gaps within the literature, obstacles in policy implementation, and collaborative strategies needed to integrate law and technology effectively. The literature analysis is conducted through a critical-descriptive approach, emphasizing detailed examination of selected sources, comparing different scholarly perspectives, and evaluating the applicability of these concepts in Indonesia's specific legal context. Furthermore, the study applies literature synthesis as part of its methodology, which integrates findings and viewpoints from multiple sources to establish a comprehensive conceptual framework. The analytical focus addresses five principal aspects, namely digital transformation as a global phenomenon, the ethical ambiguity generated by

technological change, the regulatory lag between existing laws and new innovations, the jurisprudential role in bridging legal vacuums, and collaborative strategies uniting government, private actors, and society.

Outcomes derived from this synthesis process are then utilized to develop systematic arguments and policy recommendations capable of practical application in shaping Indonesia's digital law. By employing the library research approach, the study does not solely emphasize mapping available works but also underlines critical interpretation of current legal and ethical practices in the digital sphere. Moreover, this method enables the identification of opportunities for legal innovation that are more adaptive to technological change, ensuring that research findings can provide a foundation for designing digital legal policies that are progressive, equitable, and responsive.

4. Results

4.1. Complexity of Digital Ethics and Regulatory Gaps

The advancement of digital technology has caused profound transformations across many dimensions of human life, including social interactions, economic activities, and established legal practices. Digital transformation offers significant opportunities to enhance operational efficiency, promote transparency in governance, and foster innovation in both public and private sectors. Nevertheless, this fast-paced technological development also generates complex, multi-layered ethical challenges that conventional legal norms are often unable to fully address. A primary concern that emerges is digital ethical ambiguity, which refers to uncertainty

or confusion in applying moral and ethical standards within the rapidly evolving cyberspace. This ambiguity occurs because the speed of technological progress frequently surpasses the capacity of existing regulations to adapt, resulting in intricate dilemmas regarding individual privacy rights, efficient utilization of data, and the growing complexity of accountability in algorithm-driven processes.

A concrete example of this problem can be found in the use of big data and artificial intelligence (AI) systems in public and business decision-making.⁷ Algorithm-driven recommendation or prediction systems may embed hidden biases that go unnoticed by their developers, significantly shape user behavior, or even lead to unintended discrimination. Within the legal framework, this situation raises critical questions regarding accountability when harm arises from decisions generated by these automated systems. Such uncertainty highlights the necessity of cultivating adaptive, progressive, and integrative digital ethics capable of addressing the complex interactions between humans and machines, while simultaneously considering the social, economic, and moral consequences associated with each technological innovation that is applied in practice.

In addition, regulatory gaps have become a very urgent issue to be addressed.⁸ Regulations in Indonesia frequently lag behind the rapid pace of technological advancements, particularly in critical sectors such as fintech, cryptocurrency, social media platforms, and AI applications in public administration. This delay generates

⁷ Jung Wan Lee. "Big data strategies for government, society and policy-making." *Journal of Asian Finance Economics and Business* 7, no. 7 (2020): 475-487.

⁸ Tobiloba Kollawole Adenekan. "Optimizing Regulatory Compliance: Automation Techniques for Finance and Healthcare." (2020).

substantial legal gaps that can be exploited by certain actors for personal or group interests, while also creating significant social and economic risks. Even though various digital companies had been collecting, processing, and using data for several years prior. This illustrates a clear disparity between formal legislation and actual practice, resulting in suboptimal protection of personal data and digital rights for the public.

In this context, jurisprudence or judicial decisions become a very important legal instrument to fill the existing legal vacuum.⁹ Jurisprudence serves to provide legal certainty, ensure consistency in judicial decisions, and act as a reference for the ongoing development of digital law, particularly when existing written regulations are insufficient or lack specificity for addressing digital cases. Examples such as social media defamation, digital copyright violations, and the dissemination of misinformation demonstrate how jurisprudence can reinterpret older laws to remain relevant in the evolving digital context. Nevertheless, in Indonesia, judicial precedents do not carry formal binding authority, so the role of jurisprudence is primarily as a moral guide, a persuasive tool, and a reference point for judges and legal decision-makers in shaping rulings and legal reasoning.

The emerging complexity of digital ethics, coupled with regulatory gaps, necessitates a coordinated approach involving adaptive legal frameworks, the advancement of progressive digital ethics, and the utilization of jurisprudence as a

⁹ Irfan Iryadi, Teuku Syahrul Ansari, Jumadil Saputra, Teuku Afrizal, and Ahmad Syauqi Thirafi. "The role of jurisprudence as form of legal prescriptions: A case study of notaries in indonesia." *Wseas Transactions on Environment and Development* 17, no. 2 (2021): 75-80.

guide for forming new legal norms. Addressing these challenges effectively requires extensive cross-sector collaboration, engaging government authorities, private sector participants, and civil society as primary stakeholders. In this way, regulations can be designed not only to be normative but also responsive, flexible, and capable of meeting societal needs while keeping pace with the continuous evolution of technological innovation.

4.2. Reconstruction of Legal Education and Collaborative Strategy

Beyond the issues of digital ethics and regulatory shortcomings, legal education stands out as a critical and strategic factor in addressing the increasingly complex era of digital transformation. The conventional legal curriculum, which has primarily emphasized mastery of legal theory, statutory studies, and formal procedures, requires a thorough reconstruction to integrate digital literacy, ethical understanding of technology, and relevant technical competencies for contemporary legal practice. Law students should develop the capacity to comprehend and critically analyze legal dynamics emerging from technological innovations, including e-court systems, electronic document handling, and alternative digital dispute resolution methods that are gaining prominence. This preparation is essential to ensure that future legal professionals can remain adaptive and responsive to the evolving demands of law within a fast-paced, multi-dimensional digital environment, where

technological advancements continuously reshape the practice, administration, and enforcement of legal norms.¹⁰

The redesign of legal education also highlights the importance of developing practical competencies through interactive, technology-driven learning modules. Employing online platforms, virtual simulations, hybrid courses, and diverse digital teaching methods represents a strategic approach to enhance the quality of legal education, particularly for students in remote locations or those with limited access to conventional educational resources. Moreover, ongoing professional development for legal educators is crucial to ensure that instruction is delivered in a more interactive, contextually relevant, and technologically aligned manner, while enabling lecturers to serve effectively as mentors who guide students in navigating various digital legal challenges.

Incorporating topics such as digital ethics and personal data protection into the curriculum is equally vital. This empowers future legal practitioners to evaluate the social, moral, and legal consequences of technology use and allows them to comprehensively advocate for citizens' rights. Students well-versed in digital ethics are better prepared to address moral dilemmas in the digital domain, such as balancing individual privacy against public interest or mitigating algorithmic bias in AI and big data systems. With thorough comprehension, they can provide responsible, accurate, and ethically informed legal guidance in professional practice.

¹⁰ Arsalan Zahid Piprani, Suhana Mohezar, and Noor Ismawati Jaafar. "Supply chain integration and supply chain performance: The mediating role of supply chain resilience." *International Journal of Supply Chain Management* 9, no. 3 (2020): 58-73.

In addition to legal education, a collaborative strategy among the government, private sector, and community is also a key element for building an effective and sustainable digital legal ecosystem.¹¹ The government serves as the primary regulator and overseer, yet it must also create broader opportunities for dialogue with the technology sector, academic institutions, and other stakeholders to ensure that policies remain relevant and responsive to ongoing technological advancements. The private sector, particularly tech companies and digital startups, can participate through initiatives like regulatory sandboxes, allowing new technological innovations to be tested under controlled conditions before broader implementation. Additionally, community involvement as end-users is essential, contributing to oversight, reporting violations, and promoting digital literacy among the public.

This multi-stakeholder collaboration can be further enhanced by leveraging modern technologies, such as online reporting platforms, big data analytics to track patterns of digital legal violations, and educational tools that are readily accessible to the general public. Such an inclusive, participatory, and transparent approach can boost public confidence in the digital legal system and reinforce the legitimacy of the policies enacted. Consequently, adaptive legal education combined with a comprehensive collaborative strategy form the two central pillars for establishing a responsive, ethical, and sustainable digital legal ecosystem. Well-trained law students, proactive regulators, responsible technology industry participants, and an engaged

¹¹ Akemi Takeoka Chatfield and Christopher G. Reddick. "Collaborative network governance framework for aligning open justice and e-justice ecosystems for greater public value." *Social Science Computer Review* 38, no. 3 (2020): 252-273.

community are crucial for achieving effective integration of law, ethics, and technology in Indonesia, ensuring that the challenges posed by the digital era are addressed efficiently, fairly, and responsibly.

5. Discussion

The interplay of digital ethics complexity, regulatory deficiencies, and the evolution of legal education highlights that the digital era requires a legal framework that is adaptive, cooperative, and grounded in ethical principles. Digital ethical ambiguity represents a significant challenge, as traditional moral guidelines often fall short in addressing the interactions between humans and machines or the consequences of automated decision-making. For instance, recommendation algorithms may generate biases harmful to certain groups, while conventional law has yet to establish clear accountability for resulting damages. In this setting, cultivating digital ethics rooted in universal principles, yet adaptable to local contexts, is a crucial strategy to bridge both moral and legal gaps.

Regulatory gaps highlight the need for a legal system that is more responsive to technological innovation.¹² Overly strict regulations risk stifling innovation, whereas overly lenient rules may create opportunities for misuse. Consequently, adaptive strategies, including regulatory sandboxes and co-regulation, can serve as effective solutions. A regulatory sandbox offers technology developers a controlled environment to trial new innovations under limited oversight, while co-regulation

¹² Mark Fenwick, Erik PM Vermeulen, and Marcelo Corrales. "Business and regulatory responses to artificial intelligence: Dynamic regulation, innovation ecosystems and the strategic management of disruptive technology." In *Robotics, AI and the Future of Law*, Singapore: Springer Singapore, (2018): 81-103.

engages the private sector in establishing standards and monitoring compliance. This approach also underscores the necessity of cross-sector collaboration to ensure that regulations are practical, relevant, and sustainable in the face of ongoing technological advancements.

The role of jurisprudence is also very strategic in filling the digital legal vacuum. Progressive judicial decisions can serve as a guide in similar cases and help form new norms before written regulations are drafted.¹³ Nonetheless, limited access to jurisprudence in Indonesia remains a significant obstacle, highlighting the need for a transparent, well-structured, and publicly accessible digital documentation system for court decisions. Such a system would support the advancement of legal scholarship and offer guidance for practitioners addressing digital legal issues. Reforming legal education is another critical pillar to prepare the next generation of legal professionals for digital challenges. Incorporating digital literacy, ethical considerations, and technological competencies into the curriculum enables law students to comprehend the societal and moral consequences of technological innovations. Modern, adaptive education ensures that future practitioners not only grasp legal theory but can also respond proactively and effectively to disruptions caused by rapid technological developments.

Collaboration between the government, private sector, and community provides a practical foundation for implementing digital law. The government, acting as a regulator, must engage in dialogue with technology companies and academic

¹³ Emmanuel Ariananto Waluyo Adi. "Penal mediation as the concept of restorative justice in the draft criminal procedure code." *Lex Scientia Law Review* 5, no. 1 (2021): 139-164.

institutions, while the private sector contributes through innovation and corporate social responsibility initiatives. Community involvement as end-users is equally vital, both in oversight and in promoting digital literacy. Such a collaborative approach enhances the legitimacy of policies, fosters public trust, and ensures that the digital ecosystem operates in a safe, equitable, and sustainable manner, effectively integrating all stakeholders' interests and responsibilities.¹⁴ In other words, the integration of digital ethics, jurisprudence, modern legal education, and cross-sector collaboration forms the foundation of digital law that is adaptive, responsive, and sustainable. This approach ensures that technology not only drives efficiency but also adheres to principles of morality and social justice, so that society gets the maximum benefit from digital transformation.

6. Conclusion

Digital transformation offers significant opportunities while also posing complex challenges for the Indonesian legal system. The intricacies of digital ethics, including the uncertainty of moral guidelines in cyberspace, algorithmic bias, and accountability for automated decisions, indicate that conventional legal frameworks are insufficient to regulate the fast-evolving digital environment. Integrating digital ethics into laws and legal education is essential to protect the public and ensure that technological practices align with ethical standards. Regulatory gaps represent a strategic concern, as national legislation often trails behind rapid technological

¹⁴ Ranjit Gupta, Cristian Mejia, and Yuya Kajikawa. "Business, innovation and digital ecosystems landscape survey and knowledge cross sharing." *Technological Forecasting and Social Change* 147 (2019): 100-109.

advancements. Adaptive measures, such as regulatory sandboxes and co-regulation, combined with cross-sector collaboration among the government, private sector, and community, are vital to bridging these legal gaps.

Moreover, jurisprudence plays a crucial role in establishing legal certainty and guiding the creation of new norms prior to formal legislation. A transparent and publicly accessible digital jurisprudence system is essential to advance legal scholarship. Reforming legal education is also critical to prepare legal professionals who are adaptive and competent. Embedding digital literacy, ethical awareness, and technological skills in the curriculum equips graduates to confront the challenges of the digital era proactively. Collaboration, education, and adaptive regulation form the foundation for a responsive, equitable, and sustainable digital legal ecosystem. Consequently, the development of digital law requires an integrative strategy that combines ethics, jurisprudence, education, and cross-sector cooperation to ensure technology is utilized safely, effectively, and in accordance with social justice principles.

References

- Adenekan, Tobiloba Kollawole. "Optimizing Regulatory Compliance: Automation Techniques for Finance and Healthcare." (2020).
- Adi, Emmanuel Ariananto Waluyo. "Penal mediation as the concept of restorative justice in the draft criminal procedure code." *Lex Scientia Law Review* 5, no. 1 (2021): 139-164.

- Ahern, Deirdre. "Regulatory lag, regulatory friction and regulatory transition as FinTech disenablers: calibrating an EU response to the regulatory sandbox phenomenon." *European Business Organization Law Review* 22, no. 3 (2021): 395-432.
- Belcastro, Loris, Fabrizio Marozzo, Domenico Talia, and Paolo Trunfio. "Big data analysis on clouds." In *Handbook of big data technologies*. Cham: Springer International Publishing, (2017): 101-142.
- Blemus, Stéphane. "Law and blockchain: A legal perspective on current regulatory trends worldwide." *Revue Trimestrielle de Droit Financier (Corporate Finance and Capital Markets Law Review)* RTDF 4-2017 (2017).
- Chatfield, Akemi Takeoka, and Christopher G. Reddick. "Collaborative network governance framework for aligning open justice and e-justice ecosystems for greater public value." *Social Science Computer Review* 38, no. 3 (2020): 252-273.
- Fenwick, Mark, Erik PM Vermeulen, and Marcelo Corrales. "Business and regulatory responses to artificial intelligence: Dynamic regulation, innovation ecosystems and the strategic management of disruptive technology." In *Robotics, AI and the Future of Law*, Singapore: Springer Singapore, (2018): 81-103.
- Gupta, Ranjit, Cristian Mejia, and Yuya Kajikawa. "Business, innovation and digital ecosystems landscape survey and knowledge cross sharing." *Technological Forecasting and Social Change* 147 (2019): 100-109.
- Iryadi, Irfan, Teuku Syahrul Ansari, Jumadil Saputra, Teuku Afrizal, and Ahmad Syauqi Thirafi. "The role of jurisprudence as form of legal prescriptions: A

- case study of notaries in indonesia." *Wseas Transactions on Environment and Development* 17, no. 2 (2021): 75-80.
- Ivanova, I. A., A. M. Odinaev, V. N. Pulyaeva, A. A. Gibadullin, and A. V. Vlasov. "The transformation of human capital during the transition to a digital environment." In *Journal of physics: Conference series*, 1515, no. 3, IOP Publishing, (2020): 032024.
- Lee, Jung Wan. "Big data strategies for government, society and policy-making." *Journal of Asian Finance Economics and Business* 7, no. 7 (2020): 475-487.
- Oftedal, Elin Merethe, Lene Foss, and Tatiana Iakovleva. "Responsible for responsibility? A study of digital e-health startups." *Sustainability* 11, no. 19 (2019): 5433.
- Piprani, Arsalan Zahid, Suhana Mohezar, and Noor Ismawati Jaafar. "Supply chain integration and supply chain performance: The mediating role of supply chain resilience." *International Journal of Supply Chain Management* 9, no. 3 (2020): 58-73.
- Thornhill, Chris, Carina Calabria, Rodrigo Cespedes, Dominic Dagbanja, and Elizabeth O'Loughlin. "Legal pluralism? Indigenous rights as legal constructs." *University of Toronto Law Journal* 68, no. 3 (2018): 440-493.