

Legal Certainty in Digital Spatial Planning Licensing: Rethinking Administrative Decision-Making in Urban Governance

Didi Nursidi

Faculty of Law, Universitas Wiralodra, Indramayu, Indonesia

Abstract: The digitalization of spatial planning permits has become an important part of urban governance reform, particularly in efforts to improve administrative efficiency and coordination. However, digitalization not only brings procedural changes but also affects how administrative decisions are made and legally accountable. This research aims to analyze digital-based spatial planning permits as an instrument of administrative law, focusing on their implications for the structure of administrative decisions, legal certainty, and administrative justice in urban governance. This research uses a qualitative approach with a juridical-normative method enriched by conceptual analysis. Research data is sourced from administrative legal norms, relevant laws and regulations regarding spatial planning and permits, as well as relevant scientific literature. The research results indicate that the digitalization of permits changes the structure of administrative decision-making from an individual-hierarchical model to a system-based integrated model, which increases procedural efficiency but simultaneously introduces new complexities in the division of legal authority and responsibility. Additionally, digitalization tends to strengthen procedural certainty, but it has not fully guaranteed substantive legal certainty and administrative justice. This research confirms that the success of digital spatial planning licensing is highly dependent on strengthening the administrative legal framework, harmonizing regulations, and establishing effective accountability mechanisms and legal protection.

Keywords: Spatial planning permits, digital governance, administrative decisions, legal certainty, administrative justice.

Introduction

Spatial planning permits are an important instrument in urban governance because they serve as the legal basis for land use, business activities, and development. In public administration practice ([Julin & Harrikari, 2025](#)), licensing not only serves as a formal procedure but also as a mechanism for administrative decision-making that directly impacts legal certainty for the public and businesses ([Rahayu et al., 2025](#); [Zhang et al., 2025](#)). As urban development becomes increasingly complex, governments in various countries are beginning to adopt digital-based permitting systems to improve efficiency, transparency, and inter-agency coordination. However, the digitalization of permits also brings new consequences for how administrative decisions are made and legally accounted for.

Various previous studies have examined licensing from the perspectives of public policy, sectoral governance, and the effectiveness of digital system implementation. Although the study provides important insights into the function of licensing and the role of technology in public administration, most still view licensing solely as a policy instrument or administrative mechanism. The legal implications of digital licensing, particularly regarding legal certainty and fairness in administrative decision-making, have not been extensively analyzed systematically, especially in the context of urban spatial planning licensing. Therefore, this research focuses on how digital spatial planning permits affect legal certainty and administrative decision-making practices in urban governance ([Gaffar et al., 2021](#)).

Although a digital spatial planning permit system has been implemented to simplify procedures and improve service efficiency, various fundamental issues are still found in practice ([Balboni et al., 2014](#); [Buitelaar & Sorel, 2010](#)). The digitalization of permits often places more emphasis on technical aspects and process speed, while the legal dimension of administrative decision-making has not received adequate attention. As a result, licensing decisions made through digital systems have the potential to create legal uncertainty, especially when there is regulatory disharmony, limitations in the quality of spatial data, or differences in interpretation between agencies. This study departs from that gap by treating digital spatial planning permits as part of the administrative legal process rather than merely as technical outputs of a digital system. The analysis focuses on how decisions are formed within digital licensing procedures and on the consequences of this shift for legal certainty and administrative fairness in urban governance ([Ásgeirsdóttir, 2016](#); [Voorwinden et al., 2023](#)).

A review of previous research shows that licensing has been studied from various perspectives, but with different focuses and depths of analysis. Studies that place permitting as a policy variable show that changes in the permitting regime can affect the adoption rate of permits

and the behavior of applicants but do not link this to legal implications or the digitalization of administrative decision-making processes (Parker, 2024). In the context of sectoral governance, another study views licensing as a governance instrument situated between administrative and substantive policy objectives and demonstrates that holding a license does not always guarantee compliance or the quality of governance, although this study did not explicitly address the role of digital governance and administrative law. As digital-based licensing systems develop, several studies are beginning to highlight the integration of licensing with urban governance and actor collaboration. Case studies in the context of business licensing and spatial planning in Indonesia show that digital systems have the potential to improve administrative coordination and efficiency, but the analysis of legal certainty and administrative decision-making processes is still implicit and not systematic (Wicaksono et al., 2025). Cross-sectoral studies in public health confirm that licensing can function as an instrument for enforcement and shaping compliance when supported by clear procedures, but this approach is still limited to procedural aspects and has not yet been placed within a broader administrative legal framework (Mallya et al., 2025).

By comparison, much of the literature on licensing in digital systems and data governance focuses on regulatory instruments designed to address uncertainty in digital environments. Practically, these discussions primarily focus on technical compliance and contractual arrangements, not on licensing as a means of public administrative decision-making. Meanwhile, studies in the field of safety show that licensing serves as a screening mechanism through the evaluation of performance or specific standards, but the analysis remains evaluative and has not yet addressed the implications of licensing on legal certainty and administrative justice (Hafetz et al., 2025).

Based on this synthesis, it can be concluded that there has been no research that comprehensively positions digital-based spatial planning permits as an instrument of administrative law analyzed simultaneously from the perspectives of digital governance, legal certainty, and administrative justice. Based on the identified research gap, this study contributes by positioning digital spatial planning permits as an administrative legal instrument that influences legal certainty and administrative justice in urban governance. The main contribution of this research lies in the development of a conceptual analysis that links digital governance with administrative decision-making processes so that licensing is no longer understood solely as a technical procedure or policy but rather as a legal practice that has a direct impact on the protection of rights and certainty for applicants. To achieve this goal, this research employs a qualitative approach with a juridical-normative method enriched by conceptual analysis and a review of digital spatial planning permit practices. This method was chosen because it allows for an in-depth exploration of legal norms, administrative law

principles, and the implications of digitalization on the structure and process of administrative decision-making, which cannot be adequately explained through a quantitative approach or policy evaluation alone. This research makes several key contributions as follows:

1. The Digital-based spatial planning permits are not just an administrative tool but rather an instrument of administrative law that directly affects legal certainty and administrative justice in urban governance.
2. The analysis of administrative decision-making in digital licensing systems is needed to understand the relationship between digital governance and the legitimacy of government decisions.
3. The digitalization of spatial planning permits in developing countries with decentralized government systems presents different legal challenges compared to developed countries.

The discussion starts with an overview of previous studies to show where this research stands. It then explains how the legal analysis is carried out in examining digital spatial planning permits. The main part of the paper looks at how decisions are made in digital permitting and what this means for legal certainty and administrative justice. The paper ends by outlining the main findings.

Related Work

This subsection discusses the notion of digital governance as developed in the literature and its implications for spatial planning as a regulated administrative activity.

Digital Governance and Spatial Planning

Digital governance in the literature is understood as a governance approach that places digital technology within a framework of regulation, data governance, and institutional mechanisms to shape public decision-making processes. Digitalization is not viewed as a neutral technical process but rather as a practice heavily influenced by the quality of governance that dictates how data is managed, information is used, and decisions are made and administratively accounted for. The emphasis on the role of governance and regulation in digital transformation is demonstrated, which asserts that the success of digitalization is highly dependent on the strength of data governance and the regulatory framework that governs it. The study shows that strong data governance contributes to information consistency, adherence to rules, and the legitimacy of decision-making processes in digital systems. Although the study's context is outside of spatial planning, these findings are conceptually relevant for understanding that digital governance in the public sector operates through similar mechanisms of regulation and compliance. The relationship between digital

governance and decision-making quality is also strengthened ([Kisswani et al., 2025](#)), which shows that digital governance plays a role in improving transparency, accountability, and the effectiveness of governance through the strengthening of the institutional framework. This study emphasizes that digitalization impacts administrative efficiency and shapes how public organizations manage information and make far-reaching decisions. This argument is relevant to spatial planning, where administrative decisions heavily rely on data integration, rule clarity, and inter-agency coordination.

Additionally, studies on digitalization in the context of regional and spatial planning show that implementing digital systems presents complex governance challenges. In the study conducted ([De Sisto et al., 2025](#)), it was confirmed that digital adaptation and digital governance are highly influenced by institutional alignment and governance quality, and that digitalization not supported by adequate governance has the potential to lower the quality of decision-making. This finding indicates that in the context of spatial planning, digital governance is not only about system efficiency but also about the legitimacy and quality of administrative decisions. Based on this literature synthesis, digital governance can be understood as a key element in modern spatial planning because it influences data management, administrative decision-making processes, and the legitimacy of public decisions. However, most studies still place digital governance within a policy or managerial framework, while its legal implications for the structure of administrative decision-making and legal certainty in spatial planning permits have not been widely analyzed. This condition makes it imperative to use an administrative law approach to examine the role of digital governance in spatial planning more deeply.

Licensing and Administrative Decision-Making

From the perspective of public administration and administrative law, licensing is understood as a form of preventive administrative decision that has direct legal consequences for the applicant. In licensing practice, decisions usually exceed the formal completion of procedural requirements. They are shaped by how officials understand their authority, how legal rules are applied in specific situations, and how responsibility is attributed when a decision is issued. From this perspective, the content of a licensing decision has a direct bearing on legal certainty and on the public acceptance of government action. In the context of digital system-based licensing, administrative decision-making is increasingly influenced by system integration and inter-actor coordination. A study conducted ([Wicaksono et al., 2025](#)) showed that the implementation of business licensing integrated with spatial planning through a digital system in Indonesia involves collaboration between various government agencies with different authorities. Permitting decisions are not automatically generated by the system but rather through an administrative process that requires synchronization of spatial planning

policies, clarity in the division of authority, and data consistency. This finding confirms that digital licensing serves as a complex administrative decision-making space, not merely a technology-based service mechanism.

However, ([Wicaksono et al., 2025](#)) also reveals that limited coordination and regulatory disharmony between agencies still affect the quality of licensing decisions. When system integration is not fully balanced with regulatory alignment and clarity of authority, the resulting decisions have the potential to create legal uncertainty for applicants. This suggests that without a clear administrative legal framework, digitizing permits does not automatically enhance the quality of administrative decision-making.

The legal dimension of licensing decisions as an instrument of control is also emphasized ([Fernandes et al., 2025](#)), which positions licensing particularly environmental licensing as a preventive administrative decision that serves to protect the public interest. The study reveals that simplifying licensing procedures, such as using self-declared licensing mechanisms and reducing administrative evaluations, may potentially undermine oversight, accountability, and legal certainty. This finding confirms that licensing decisions cannot be reduced to mere administrative procedures without adequate substantive evaluation. Another aspect of licensing decision-making relates to the issues of uncertainty and the quality of administrative assessments. The study conducted ([Fiene, 2025](#)) showed that licensing decisions inherently contain uncertainty risks, especially when compliance assessments are done binarily without an adequate evaluation framework. Through the uncertainty–certainty matrix concept, ([Fiene, 2025](#)) explains that bias and inconsistency in decision-making can lead to decision errors that impact public protection and legal certainty. This framework is relevant for understanding the challenges of decision-making in digital licensing, where evaluations often rely on data and parameters that have been simplified by the system.

Furthermore, research regarding the decision-making process in public administration underscores that the quality of decisions is profoundly affected by the institutional framework and the decision-making processes themselves. As discussed in ([Kawai & Hanaoka, 2025](#)), administrative decisions are not produced simply by following written rules. In practice, they depend on the capacity of institutions and on how public officials exercise their judgment in concrete situations. The use of digital administrative systems does not remove this element of judgment, but changes how decisions are processed and how responsibility is later attached to them. This situation suggests that digital permitting cannot rely on system design alone. Where legal norms remain unclear or administrative authority is fragmented, permits tend to function as routine procedures rather than as legal decisions. Such conditions make it difficult to maintain legal certainty and weaken the basis for holding government actions accountable.

State of the Art and Research Gap

Studies on licensing appear in different fields, including public policy, environmental governance, and urban governance. In much of this work, licensing is discussed mainly as a policy tool or an administrative technique, rather than as a legal decision grounded in administrative law. As digital systems become more common in permitting practices, particularly in the field of urban spatial planning, this limitation becomes more visible and calls for closer attention to questions of legal certainty and administrative decision-making. Therefore, to map the position of this research within the existing scientific landscape, Table 1 presents a comparison of previous studies based on their focus of study, the role of licensing, and the extent to which aspects of digital governance, legal certainty, and administrative justice were analyzed. This comparison simultaneously reveals a research gap that has not been extensively and systematically studied, which forms the basis of this research's contribution.

Table 1 State of the Art and Research Gap in Digital Spatial Planning Licensing

Author	Research Focus	Role of Licensing	Digital Governance	Legal Certainty	Administrative Justice	Limitation
(Parker, 2024)	Impact of licensing regime changes on license adoption	Policy variable	x	x	x	Does not analyse legal implications or digitalisation
(Wicaksono et al., 2025)	Actor collaboration in OSS-based spatially integrated licensing	Administrative instrument	v	Implicit	Implicit	Lacks analysis of legal certainty and administrative decision-making
(Mallya et al., 2025)	Vendor licensing and compliance in public health regulation	Enforcement instrument	x	Implicit	Implicit	Not focused on digital systems or administrative law
(Hafetz et al., 2025)	Performance-based assessment as a licensing gatekeeping mechanism	Gatekeeping instrument	x	Procedural	Procedural	Not concerned with digital governance or legal certainty

Based on the comparison in Table 1, previous research has made significant contributions to understanding licensing from various perspectives, such as public policy, sectoral governance, actor collaboration, and compliance mechanisms. Nevertheless, these studies still show limitations in linking digital licensing with more fundamental legal implications, particularly regarding legal certainty and administrative justice. Some studies only mention this aspect implicitly or procedurally, without a systematic analysis of the administrative decision-making process in digital-based licensing systems. This condition indicates that the digitalization of permits has not been fully understood as a transformation in administrative law practice but is still treated as a technical innovation or governance instrument. Therefore, this research aims to fill this gap by positioning digital spatial planning permits as an administrative legal instrument that directly impacts legal certainty and the quality of decision-making in urban governance.

Research Method

This research uses a qualitative approach with a doctrinal research method enriched by conceptual analysis and systematic literature synthesis. This approach was chosen because the main objectives of the research are to analyze digital-based spatial planning permits as administrative decisions and to examine the implications of digitalization on legal certainty and administrative justice in urban governance (Florin, 2013; Hrestic, 2014). This research does not aim to measure the technical performance of the licensing system or user behavior, but rather to understand how legal norms, administrative law doctrines, and decision-making structures function within the context of digital governance. The doctrinal research method is used to examine law as a normative system consisting of legal rules, principles, and doctrines. Within this framework, legal doctrine is not treated solely as a description of positive norms but as an analytical instrument for assessing the coherence, rationality, and institutional implications of a legal arrangement (Gurpur & Rautdesai, 2014; Kotzé & Kim, 2019). This approach allows research to examine licensing as a form of administrative decision-making with direct legal consequences and to evaluate how administrative authority is exercised within a digital-based licensing system (Corwin, 1914; Santoni de Sio, 2017).

In this study, the discussion starts with how spatial planning permits are handled by administrative authorities in practice. Legal concepts such as licensing, discretion, and legal certainty are introduced only to explain how decisions are taken and justified within that setting (Boulanger, 2020). The research data is sourced from legal materials and scientific literature, which are treated as qualitative data. Legal materials encompass norms and legal doctrines pertinent to licensing and governmental administration, whereas scientific literature consists of esteemed international journal articles addressing digital governance,

licensing, and administrative decision-making. Literature is not only used as a theoretical background but is also systematically analyzed as a data source to identify patterns of argumentation, analytical approaches, and the limitations of previous studies ([Barriola et al., 2023](#)).

Data analysis was conducted through normative analysis and conceptual synthesis of the literature. Normative analysis was used to examine the alignment between legal norms, administrative law principles, and digital spatial planning licensing practices. Meanwhile, conceptual synthesis was performed by grouping literature findings into analytical themes relevant to administrative decision-making, such as coordination of authority, accountability of decisions, and the risk of legal uncertainty. This approach aligns with the practice of systematic literature synthesis in legal and social science research, which positions literature reviews as the primary data source for constructing a state-of-the-art mapping and identifying research gaps. With this methodological approach, this research is able to explain digital-based spatial planning permits as an instrument of administrative law, not merely a technical procedure or administrative policy. The method used allows for a comprehensive analysis of the relationship between digital governance, administrative decision-making processes, and their implications for legal certainty and administrative justice in urban governance, without relying on quantitative empirical methods or field data collection.

Results and Discussion

Digital spatial planning permits have increasingly become part of everyday administrative practice at the municipal level. Their use reflects not only changes in administrative procedure but also shifts in how public authorities exercise judgment and structure decision-making. In this context, digital licensing cannot be reduced to questions of efficiency or technical design. It raises legal questions about how authority is allocated, how decisions are justified, and how accountability is maintained when administrative acts are produced through digital systems. The analysis in this section concentrates on these legal consequences. Rather than assessing the performance of digital platforms, it considers how digitalization affects the substance of administrative decisions and the position of individuals subject to them. Particular attention is given to issues of legal certainty and administrative justice, which remain central concerns in spatial planning regulation. These issues are examined through three closely connected dimensions: changes in administrative decision-making brought about by digital permits, the impact of digitalization on legal certainty, and the difficulties that arise in ensuring administrative justice within digital licensing practices.

Digitalization of Licensing and Administrative Decision Structure

Permits in Indonesian administrative law refers to individual, concrete, and final state administrative decisions that carry legal consequences for the applicant. The main normative basis for this character can be traced to Law Number 30 of 2014 concerning Government Administration, specifically the provisions regarding administrative decisions and the authority of government officials. According to Article 1, paragraph 7 of the Government Administration Law, an administrative decision is a written decision made by a government official in the course of their work. Articles 8 and 10 stress that every decision must be made by someone with the right authority and follow the general rules of good governance. According to this norm, the way that administrative decisions are made in licensing is mostly hierarchical and personal-institutional. This means that only certain officials or agencies that the law says can make decisions can do so. In the context of spatial planning permits, this structure is also influenced by the provisions of Law Number 26 of 2007 concerning Spatial Planning, which places spatial plans as the substantive legal basis for granting permits for land use. Thus, before digitalization, permitting decisions normatively reflected the direct relationship between the permitting official, spatial planning norms, and the applicant.

In practice, the use of electronic permit systems has altered how administrative decisions are formed. Under Government Regulation Number 5 of 2021 on risk-based business licensing, permit processing is no longer handled through separate administrative steps but is carried out through a single digital platform that connects data, verification processes, and technical agencies involved in licensing. Articles 6 and 7 of the regulation show that licensing is no longer processed entirely by one agency but through cross-sectoral coordination facilitated by an electronic system. This change has a direct impact on the structure of administrative decisions. The licensing decision, which is formally still issued by the authorized official, is in practice the result of the accumulation of recommendations, data validation, and approvals from various administrative units. Several actors share decision-making tasks in the current licensing arrangement, but the permit-issuing official still formally holds the final decision. This situation highlights a gap between the formal allocation of authority under the Government Administration Law and the way decisions are actually produced through collective and system-based processes.

Furthermore, the digitalization of permits also affects the space for administrative discretion. According to Articles 22 and 24 of the Government Administration Law, discretion can only be used within the limits of authority and for the public good. In a digital licensing system, official discretion tends to be limited by system parameters and predefined standards. The analysis results indicate that this restriction can improve decision consistency but at the same

time potentially reduce the flexibility of substantive judgment regarding the applicant's concrete conditions and spatial planning context. Based on the normative foundation and analysis, it can be concluded that the digitalization of permits has transformed the structure of administrative decision-making from an individual-hierarchical model to a system-based integrated and collective model. Although digital licensing decisions still maintain their nature as administrative decisions under administrative law, this structural change requires clearer definitions regarding the division of authority, legal responsibility, and accountability mechanisms. Thus, the research findings in this subsection indicate that the digitalization of permits is not merely a procedural innovation but a structural change with direct implications for administrative law and governance.

Implications of Digitalization on Legal Certainty

Legal certainty is a fundamental principle in administrative law that requires every administrative decision to be predictable, consistent, and legally accountable. In the Indonesian legal system, this principle is explicitly recognized as part of *Asas-Asas Umum Pemerintahan yang Baik (AUPB)* as regulated in Law Number 30 of 2014 concerning Government Administration. Article 10, paragraph (1), of the Government Administration Law emphasizes that legal certainty is one of the principles that government officials must adhere to in every administrative decision-making and action. Normatively, legal certainty in spatial planning permits is also closely related to the validity of spatial plans as the substantive legal basis for granting permits. Law Number 26 of 2007 concerning Spatial Planning places spatial plans as a binding instrument for controlling land use. Thus, permitting decisions that are not in line with spatial planning have the potential to create legal uncertainty for both permit applicants and the community affected using that space.

The analysis results show that the digitalization of permits has a dual implication for legal certainty. On one hand, the electronic-based licensing system enhances procedural certainty through the standardization of stages, process transparency, and digital recording of each decision-making step. The regulations regarding risk-based business licensing in Government Regulation Number 5 of 2021 indicate that digitalization is intended to create certainty through risk classification, clarity of requirements, and cross-agency data integration. From a procedural perspective, this mechanism contributes to increased predictability of the permitting process. However, on the other hand, research results indicate that legal certainty is not only determined by procedural certainty but also by the substantive certainty of decisions. The digitalization of permits tends to emphasize compliance with system-based administrative requirements, while the substance of permit compliance with spatial planning norms and sectoral policies often depends on data quality and inter-agency interpretation.

When there is a lack of synchronization between spatial data, sectoral regulations, and local policies, licensing decisions generated through digital systems have the potential to create legal uncertainty, even though the procedures have been carried out electronically.

Additionally, digitalization also affects the mechanisms for correcting and testing licensing decisions. Within the framework of the Government Administration Law, administrative decisions that do not meet the principle of legal certainty can be appealed, administratively appealed, or tested through the state administrative court mechanism. However, the analysis results show that in a digital system, tracing the basis of the substantive considerations behind a decision becomes more difficult when the decision is the result of the automated integration of various data sources and system recommendations. This condition has the potential to weaken the applicant's position in assessing or challenging decisions considered detrimental. Based on this normative analysis, it can be concluded that the digitalization of permits increases legal certainty at the procedural level but does not fully guarantee legal certainty at the substantive level. Legal certainty in digital-based spatial planning permits can only be achieved if digitalization is balanced with the alignment of spatial planning norms, clarity of administrative authority, and transparent accountability mechanisms. Thus, the research findings in this subsection confirm that the digitalization of permits must be positioned as a means of supporting legal certainty, not as a substitute for upholding the principles of administrative law.

The Challenge of Administrative Justice in Digital Licensing

Administrative justice is a basic idea in administrative law that says that every administrative decision must be made fairly, proportionally, and without bias, and that both public interests and individual rights must be protected equally. In the Indonesian legal system, the principle of administrative justice is reflected in *Asas-Asas Umum Pemerintahan yang Baik (AUPB)* as regulated in Law Number 30 of 2014 concerning Government Administration, specifically the principles of accuracy, non-abuse of authority, and good service as formulated in Article 10 paragraph (1). These principles serve as the normative basis for assessing fairness in licensing decision-making. In the context of spatial planning permits, administrative justice also relates to equal treatment of permit applicants and the protection of public interests affected by land use. Law Number 26 of 2007 concerning Spatial Planning places public interest, environmental sustainability, and spatial integration as the normative basis for controlling land use. Therefore, a fair licensing decision is not only measured by the fulfillment of administrative requirements but also by the extent to which the decision proportionally considers social and spatial impacts.

The analysis results indicate that the digitalization of permits presents new challenges to the realization of administrative justice. Electronic-based licensing systems tend to apply uniform standards and parameters to all applicants. On the one hand, this approach has the potential to improve procedural equality by reducing discriminatory practices and direct interactions prone to abuse of power. However, system-based standardization could overlook important differences in factual conditions and local contexts that should be considered in the substantive decisions regarding spatial planning permits. Additionally, reliance on digital systems also affects applicants' access to administrative justice. While digitalization aims to enhance public services, not all applicants possess the same ability to comprehend and utilize the electronic licensing system. This condition has the potential to create unequal access, especially for applicants with limited information or resources. From an administrative justice perspective, this situation raises questions about whether the digital licensing system truly provides equal opportunities for all citizens. Challenges to administrative justice also arise in mechanisms for legal correction and protection. Under the Government Administration Law, someone who has been hurt by an administrative decision can file an objection, an administrative appeal, or a lawsuit with the state administrative court. However, research results indicate that in digital-based licensing, the decision-making process involving system integration and automation can make it difficult for applicants to identify the basis for the substantive considerations of the decision. The result could potentially weaken the effectiveness of legal efforts and reduce protection for the applicant's rights.

This normative analysis concludes that the digitalization of permits does not inherently ensure the implementation of administrative justice. Although digital systems can enhance procedural equality and service efficiency, substantive justice in spatial planning permits still depends on the quality of administrative considerations, system accessibility, and effective accountability and legal protection mechanisms. Therefore, the research findings in this subsection confirm that strengthening administrative justice in digital licensing requires adjustments to the legal and institutional framework to ensure that the principle of justice is not reduced by the technical logic of the system.

Discussion and Implications

The analysis results in Subsections 4.1 to 4.3 indicate that the digitalization of spatial planning permits is a structural transformation in administrative law, not merely a procedural innovation. Digitalization has transformed the structure of administrative decisions, impacted legal certainty and presented new challenges for administrative justice. This finding confirms that an approach that views digital licensing solely as a technical instrument or electronic service is inadequate for comprehensively explaining its legal implications. Theoretically, this

research reinforces the understanding that licensing in the context of digital governance must still be positioned as an administrative decision subject to the principles of administrative law. The research results indicate that system integration and automation do not eliminate the normative character of permitting decisions but rather increase the complexity of authority relations and administrative responsibility. This discussion expands the study of administrative law by highlighting how digital governance reshapes decision-making practices without shifting the state's obligation to ensure legality and accountability.

From a legal certainty perspective, the research findings indicate a difference between procedural certainty and substantive certainty in digital licensing. Although electronic systems enhance the orderliness and predictability of procedures, substantive legal certainty still depends on the alignment of spatial planning norms, data quality, and consistency of interpretation across agencies. This implication suggests that the digitalization of permits cannot be seen as a standalone solution to the problem of legal certainty but must be supported by regulatory harmonization and the strengthening of administrative decision-making mechanisms.

This discussion also highlights the significant implications for administrative justice. The digitalization of permits has the potential to improve procedural equality through process standardization and a reduction in direct interactions that are prone to abuse of authority. However, research results indicate that system-based standardization can also ignore factual context and create unequal access for certain groups. Administrative justice in digital licensing cannot be reduced to questions of procedural equality alone. What is at stake is also the protection of substantive interests and the availability of meaningful avenues to question or correct administrative decisions. In practice, digital systems may streamline procedures, yet they can also distance applicants from decision-makers if safeguards are not clearly embedded in the system. For this reason, the design and operation of digital licensing systems need to be understood within the broader framework of administrative law. Legal certainty and legality do not arise automatically from digital procedures. They depend on how authority is allocated, how responsibility is exercised by public officials, and how accountability is maintained when decisions are produced through electronic systems. Where these elements remain unclear, applicants may face uncertainty despite faster processing times. Seen from this perspective, the effectiveness of digital spatial planning permits cannot be assessed solely by efficiency or service speed. A more relevant measure lies in whether digitalization can preserve, and where possible strengthen, the core principles of administrative law. Only under these conditions can digitally licensing function as a legitimate instrument of urban governance rather than merely a technical tool for administrative management.

Conclusions

This research concludes that the digitalization of spatial planning permits cannot be understood solely as a procedural innovation or technical system but rather as a structural change in administrative decision-making practices. Digital-based licensing remains an administrative decision with direct legal consequences and is therefore subject to the principles of legality, legal certainty, and administrative justice. Although digitalization can improve efficiency and procedural order, research results indicate that substantive legal certainty and administrative justice are not automatically guaranteed, especially when there are regulatory inconsistencies, limitations in the quality of spatial data, and complexities in interagency coordination. Based on these findings, this study recommends that digital spatial planning permit policies be explicitly positioned within the administrative legal framework. The government needs to ensure clarity of authority and responsibility for officials in the digital licensing system, strengthen the harmonization of spatial planning regulations and sectoral policies, and provide a transparent and accessible mechanism for applicants to correct decisions. Thus, the digitalization of permits not only serves as a tool for administrative efficiency but also as a legal instrument capable of ensuring legal certainty and administrative justice in urban governance.

References

- Ásgeirsdóttir, Á. (2016). Settling of the maritime boundaries of the United States: Cost of settlement and the benefits of legal certainty. *Marine Policy*, 73, 187-195. <https://doi.org/10.1016/j.marpol.2016.08.008>
- Balboni, P., Pelino, E., & Scudiero, L. (2014). Rethinking the one-stop-shop mechanism: Legal certainty and legitimate expectation. *Computer Law & Security Review*, 30(4), 392-402. <https://doi.org/10.1016/j.clsr.2014.05.007>
- Barriola, I., Deffains, B., & Musy, O. (2023). Law and inequality: A comparative approach to the distributive implications of legal systems. *International Review of Law and Economics*, 75, 106139. <https://doi.org/10.1016/j.irle.2023.106139>
- Boulanger, C. (2020). The Comparative Sociology of Legal Doctrine: Thoughts on a Research Program. *German Law Journal*, 21(7), 1362-1377. <https://doi.org/10.1017/glj.2020.80>
- Buitelaar, E., & Sorel, N. (2010). Between the rule of law and the quest for control: Legal certainty in the Dutch planning system. *Land Use Policy*, 27(3), 983-989. <https://doi.org/10.1016/j.landusepol.2010.01.002>
- Corwin, E. S. (1914). The Basic Doctrine of American Constitutional Law. *Michigan Law Review*, 12(4), 247-276. <https://doi.org/10.2307/1276027>

- De Sisto, M., Ul-Durar, S., Arshed, N., Sadaf, A., & Nazarian, A. (2025). Estimating digital adaptation and governance in international businesses by targeting environmental sustainability. *J Environ Manage*, 394, 127472. <https://doi.org/10.1016/j.jenvman.2025.127472>
- Fernandes, G. W., Paula, G. A. d., Bender, M. G., Bergallo, H. d. G., Christofolletti, R., Colli, G. R.,...Viani, R. A. G. (2025). Shortcuts to degradation: environmental consequences of Brazil's general environmental licensing law. *Perspectives in Ecology and Conservation*. <https://doi.org/10.1016/j.pecon.2025.10.004>
- Fiene, R. (2025). The Uncertainty–Certainty Matrix for Licensing Decision Making, Validation, Reliability, and Differential Monitoring Studies. *Knowledge*, 5(2). <https://doi.org/10.3390/knowledge5020008>
- Florin, M. A. (2013). Aspects Regarding Environmental Protection in Romania and EU, from a Juridical Perspective. *Procedia - Social and Behavioral Sciences*, 81, 27-31. <https://doi.org/10.1016/j.sbspro.2013.06.382>
- Gaffar, S., Karsona, A. M., Pujiwati, Y., & Perwira, I. (2021). The concept of procedural law regarding the implementation of collective agreements with legal certainty in termination of employment in Indonesia. *Heliyon*, 7(4), e06690. <https://doi.org/https://doi.org/10.1016/j.heliyon.2021.e06690>
- Gurpur, S., & Rautdesai, R. (2014). Revisiting Legal Education for Human Development: Best Practices in South Asia. *Procedia - Social and Behavioral Sciences*, 157, 254-265. <https://doi.org/https://doi.org/10.1016/j.sbspro.2014.11.028>
- Hafetz, J., Gervais, C., Leann Long, D., Ford, C. A., Collett, M., Curry, M., & McDonald, C. C. (2025). Validation of a performance-based driving assessment: Implications for licensing young drivers. *Journal of Safety Research*, 95, 101-108. <https://doi.org/10.1016/j.jsr.2025.09.007>
- Hrestic, M.-L. (2014). The Consequences of the “Constitutionalization” of the Charter of Fundamental Rights of the European Union. *Procedia - Social and Behavioral Sciences*, 149, 404-408. <https://doi.org/10.1016/j.sbspro.2014.08.198>
- Julin, E., & Harrikari, T. (2025). Tokens or competent agents? Constructing generational orders in Finnish law-making practice. *Child Protection and Practice*, 6, 100229. <https://doi.org/https://doi.org/10.1016/j.chipro.2025.100229>
- Kawai, M., & Hanaoka, S. (2025). A Decision-Making Framework for Public–Private Partnership Model Selection in the Space Sector: Policy and Market Dynamics Across Countries. *Administrative Sciences*, 15(9), 367.
- Kisswani, K. M., Al-Khasawneh, J. A., Khalid, N., Kazmi, S. H. R., & Syed, Q. R. (2025). Exploring new drivers of mineral resource rents in BRICS countries: The role of digital

- governance and political stability. *Journal of Open Innovation: Technology, Market, and Complexity*, 11(4). <https://doi.org/10.1016/j.joitmc.2025.100659>
- Kotzé, L. J., & Kim, R. E. (2019). Earth system law: The juridical dimensions of earth system governance. *Earth System Governance*, 1. <https://doi.org/10.1016/j.esg.2019.100003>
- Mallya, S. D., Kumar, P., Bhagawath, R., Jahan, A., Nayak, R., & Kulkarni, M. M. (2025). Compliance to select sections of cigarettes and other tobacco products act (COTPA) around PoS and perception of tobacco vendors about tobacco control policies and vendor licensing: A mixed method study from four districts of a South Indian state. *Clinical Epidemiology and Global Health*, 33. <https://doi.org/10.1016/j.cegh.2025.101999>
- Parker, S. T. (2024). Concealed Handgun License Laws and Concealed Handgun License Adoption, 2002-2019. *Am J Prev Med*, 67(6), 951-959. <https://doi.org/10.1016/j.amepre.2024.07.009>
- Rahayu, D. P., Rustamaji, M., Faisal, F., & Sari, R. (2025). Legal effectiveness of business contracts in tin mining: Socio-legal and governance challenges in corporate–community relations in Indonesia. *Resources Policy*, 111, 105767. <https://doi.org/https://doi.org/10.1016/j.resourpol.2025.105767>
- Santoni de Sio, F. (2017). Killing by Autonomous Vehicles and the Legal Doctrine of Necessity. *Ethical Theory and Moral Practice*, 20(2), 411-429. <https://doi.org/10.1007/s10677-017-9780-7>
- Voorwinden, A., van Bueren, E., & Verhoef, L. (2023). Experimenting with collaboration in the Smart City: Legal and governance structures of Urban Living Labs. *Government Information Quarterly*, 40(4), 101875. <https://doi.org/https://doi.org/10.1016/j.giq.2023.101875>
- Wicaksono, A., Andari, R. N., Azni, U. S., Prayoga, R. A., Putri, I. H. S., Wahyono, E.,...Susantyo, B. (2025). Actor collaboration in the implementation of business licensing integrated with the land use framework: Indonesian case study. *Urban Governance*. <https://doi.org/10.1016/j.ugj.2025.10.003>
- Zhang, Y., Duan, H., & Yang, W. (2025). Navigating the intersection: How antitrust law can facilitate fair standard essential patent licensing in China. *Computer Law & Security Review*, 57, 106146. <https://doi.org/https://doi.org/10.1016/j.clsr.2025.106146>