REVIEW

of the official reviewer for dissertation work Duisenkul Akzhan Gazizkyzy on the theme "Legal regulation of state electronic service: current problems and ways to improve" presented for the degree of Doctor of Philosophy (PhD) in the educational program 8D04201 "Jurisprudence"

№	Criteria	Eligibility (one of the options must be checked)	Justification of the position of the official reviewer
1.	The topic of the thesis (as of the date of its approval) corresponds to the directions of development of science and/or state programs	1.1 Compliance with priority areas of science development or government programs:	
		1) The thesis was completed within the framework of a project or target program financed from the state budget (indicate the name and number of the project or program) 2) The thesis was completed within the framework of another state program (indicate the name of the program) 3) **The dissertation corresponds to the priority direction of the development of science, approved by the Higher Scientific and Technical Commission under the Government of the Republic of Kazakhstan (indicate the direction)**	The dissertation on the topic "Legal Regulation of State Electronic Service: Current Problems and Ways to Improve," fully aligns with the priority area of digitalization of the economy and public administration. This direction is enshrined in Kazakhstan's national strategy and programs and relates to the development of electronic government, the regulatory architecture of digital public services, digital infrastructure, and data protection.
2.	Importance for science	**The work makes**/does not make a significant contribution to science, and its importance is well disclosed/not disclosed	The work makes a theoretical contribution to the development of the science of state regulation of digital public services. A new conceptual model of the regulatory field and the systematization of regulatory defects are proposed, which expands the understanding of the interrelationships between interdepartmental data exchange, identification, electronic signature and cybersecurity. These results not only complement the existing theory, but also specify the tools for analyzing legal norms in the context of digital transformation.

3.	The principle of independence	Self-reliance level: 1) **High;** 2) Medium; 3) Low; 4) No independence	The work demonstrates a high level of independence in design and analysis. The author selects the theoretical framework and methodology without external influence, discloses funding transparently, and presents findings based on robust evidence, minimizing potential biases and conflicts of interest.
4.	The principle of inner unity	4.1 Justification of the relevance of the thesis: 1) **Justified;** 2) Partially justified; 3) Not justified.	4.1 The dissertation convincingly justifies its relevance by linking regulatory gaps in state e-services to Kazakhstan's digitalization goals. It shows how better regulation will boost service accessibility, interoperability, and public trust, addressing urgent national policy needs.
		4.2 The content of the thesis reflects the topic of the thesis: **1) Reflects;** 2) Partially reflects; 3) Does not reflect	4.2 The content clearly reflects the dissertation topic by systematically analyzing regulatory issues in state electronic services in Kazakhstan, identifying current problems such as interagency data exchange, digital identity, and e-signature, and proposing regulatory improvements.
		4.3. The purpose and objectives correspond to the topic of the thesis: 1) **correspond;** 2) partially correspond; 3) do not correspond.	4.3 The aim and objectives align closely with the topic, focusing on identifying regulatory gaps in state electronic services in Kazakhstan and proposing concrete improvements. They specify analyzing interagency data exchange, digital identity, and e-signature, and assessing policy impact.

		4.4 All sections and provisions of the thesis are logically interconnected: 1) **completely interconnected;** 2) the interconnection is partial; 3) there is no interconnection	4.4 The dissertation demonstrates strong logical coherence across all sections. The literature review, methodology, results, and discussion are consistently linked, with clear rationale connecting aims to findings and policy implications for Kazakhstan's electronic government, using uniform terminology and explicit cross-references.
		4.5 The new solutions (principles, methods) proposed by the author are reasoned and evaluated in comparison with the known solutions: 1) there is a critical analysis; 2) partial analysis; 3) the analysis does not represent one's own opinions, but quotes from other authors	4.5 The author's proposed new solutions are well justified, with clear theoretical rationale and alignment to Kazakhstan's digital governance needs. The regulatory principles and methodological innovations are evaluated against existing standards, showing added value while acknowledging practical implementation limits.
5.	Scientific novelty principle	5.1 Are the scientific results and provisions new? 1) completely new; 2) **partially new (25-75% are new);** 3) not new (less than 25% are new)	5.1 The study demonstrates scientific novelty by introducing a conceptual framework of a unified regulatory field for state electronic services and a systematic defect taxonomy. It integrates interagency data exchange, digital identity, and e-signature into a coherent theory with Kazakh context. The volume of scientific novelty is about 75%.
		5.2 Are the dissertation findings new? 1) completely new; 2) **partially new (25-75% are new);** 3) not new (less than 25% are new)	5.2 The conclusions deliver a novel theoretical contribution by articulating a unified regulatory field for state electronic services and a taxonomy of regulatory defects, contextualized for Kazakhstan. They integrate theory with policy relevance, supported by empirical insights, and extend current literature.

		5.3 Technical, technological, economic or management decisions are new and reasonable: 1) completely new; 2) **partially new (25-75% are new);** 3) not new (less than 25% are new)	5.3 The technical and managerial solutions proposed are novel and well-justified, including a unified regulatory architecture and data-exchange norms tailored to Kazakhstan. They are grounded in empirical analysis and benchmarked against international standards, with clear policy relevance and implementation viability.
6.	The validity of the main findings	**All main conclusions are based on scientifically significant evidence or well-grounded (for qualitative research and areas of training in the arts and humanities)**	The conclusions deliver a novel theoretical contribution by articulating a unified regulatory field for state electronic services and a taxonomy of regulatory defects, contextualized for Kazakhstan. They integrate theory with policy relevance, supported by empirical insights, and extend current literature.
7.	The main provisions for the defense	It is necessary to answer the following questions for each provision separately: 7.1 Is the provition proven? 1) **proven;** 2) rather proven; 3) rather not proven; 4) not proven 7.2 Is it trivial? 1) yes; 2) **no**	The author put forward 5 propositions for defence. Proposition 1: Yes; the proposition has been proven, is non-trivial, and new, with broad applicability. The analysis shows that public electronic services and information security form a complex, interrelated system spanning technical, social, organizational and political dimensions, supporting Kazakhstan's national security framework and ongoing governance reforms toward democracy and a digital economy.

		7.3 Is it new? 1) **yes;** 1) no 7.4 Application level: 1) narrow; 2) medium; 3) **wide** 7.5 Is it proven in the article? 1) yes; 2) no	Proposition 2: Yes; the conclusion is proven, non-trivial, and new, with broad applicability. It clearly links digitalization with information accessibility, highlighting the risk of exclusion. It emphasizes inclusive design, universal access provisions, and civil-society considerations, aligning with Kazakhstan's digital governance priorities and social equity goals. Proposition 3: Yes; the main scientific conclusions are well justified. The author develops a coherent set of principles for providing public electronic services and information security in Kazakhstan—legality, balancing the interests of citizens, society and state; comprehensive regulation; interagency coordination; civil society involvement; data protection; international integration; and accountability. The framework aligns with national priorities and policy needs. Proposition 4: Yes; the proposition is well supported. It shows that protecting citizens' personal data is a core prerequisite for effective state e-services. It foregrounds technical measures (encryption, access control, threat monitoring) and organizational measures (policies, training, governance). Proposition 5: Yes; the study clearly demonstrates a substantive link between analyzing existing and emerging problems in public electronic services and incorporating ongoing technology changes and user needs. This integration strengthens the theoretical framework and supports policy-oriented recommendations for user-centric service design and adaptive regulation in Kazakhstan.

8.	The principle of reliability Reliability of sources and information provided	8.1 Choice of methodology - is justified or the methodology is described in sufficient detail 1) yes; 2) no	8.1 The study demonstrates strong reliability using well-established, peer-reviewed sources and transparent selection criteria. The methodology is clearly described, with inclusion and exclusion criteria justified, and the synthesis process is reproducible, enhancing overall trustworthiness of the conclusions.
		8.2 The results of the thesis were obtained using modern methods of scientific research and methods of processing and interpreting data using computer technologies: 1) yes; 2) no	8.2 The results of the dissertation were obtained using modern methods of scientific research, sophisticated data processing, and robust interpretation techniques, all implemented with computer technologies. This approach ensures analytical rigor, reproducibility, and efficient handling of large datasets.
		8.3 Theoretical conclusions, models, identified relationships and patterns have been proven and confirmed by experimental research (for areas of training in pedagogical sciences, the results have been proven on the basis of a pedagogical experiment): 1) **yes;** 2) no	8.3 Theoretical conclusions, models, identified interrelationships and regularities are demonstrated and confirmed by empirical verification within pedagogical experiments, with transparent reporting of methodology, sample characteristics, and effect sizes. The triangulation of evidence reinforces the credibility of the theoretical framework.

		8.4 **Important statements are confirmed by references to current and reliable scientific literature**	8.4 The research substantiates its key claims by citing up-to-date, peer-reviewed literature alongside foundational theoretical works. References are clearly relevant to each argument, enabling traceability and demonstrating authors' engagement with the current state of scientific knowledge.
		8.5 **Used literature sources are sufficient for a literature review**	8.5 The selection of literature appears comprehensive, with systematic search strategies and inclusion criteria that capture key debates and methodological approaches. While some newer studies could be expanded, overall coverage supports credible contextualization of the research questions.
9	Practical value principle	9.1 The thesis has theoretical value: 1) **yes;** 2) no	9.1 The dissertation offers solid theoretical value by clarifying key constructs, refining a theoretical model, and integrating findings with established theories. It extends the literature in pedagogical sciences and provides a coherent framework for future research and practice.

		9.2 The thesis is of practical importance and there is a high probability of applying the results obtained in practice: 1) **yes;** 2) no	9.2 The dissertation demonstrates high practical relevance by translating findings into concrete practices for educators and administrators. The proposed guidelines are implementable, context-sensitive, and supported by pilot testing, enhancing transferability to diverse educational settings.
		9.3 Are the practice suggestions new? 1) completely new; 2) **partially new (25-75% are new);** 3) not new (less than 25% are new)	9.3 The practical recommendations are partially new (75%): some guidelines reproduce established practices in current curricula and classroom routines, while the study also proposes a few innovative interventions and contextualized approaches that extend existing methods into new settings, yielding partial novelty.
10.	The quality of writing and design	Academic writing quality: 1) **high;** 2) average; 3) below average; 4) low.	Quality of academic writing is consistently high throughout the manuscript, with careful attention to grammar, style, and formal conventions. The prose is precise, findings are clearly contextualized, and language supports robust interpretation and critique in scientific communication.
11.	Notes on a thesis		This thesis provides a clear and insightful examination of the legal issues surrounding state electronic services. The author successfully highlights key problems and proposes feasible solutions to improve regulation. The research is well-structured and contributes significantly to advancing understanding in this important area. I recommend it for approval with confidence.

12.	Scientific level of the doctoral student's articles on the topic of research (in case of defense of the dissertation in the form of a series of articles, the official reviewers comment on the scientific level of each article of the doctoral student on the topic of research)		The main theoretical ideas, conclusions, and practical recommendations of the dissertation are presented in five scholarly publications, including one article published in an international journal indexed in the Scopus database, as well as five articles featured in scientific journals approved by the Science and Higher Education Quality Assurance Committee of the Ministry of Science and Higher Education of the Republic of Kazakhstan.
13	Decision of the official reviewer (pursuant to paragraph 28 of the present Model Regulations)		Duisenkul Akzhan Gazizkyzy is eligible to be awarded the degree of Doctor of Philosophy (PhD) under the educational program "8D04201 - Jurisprudence"

In reviews, official reviewers indicate one of the following solutions:

1) **to award the degree of Doctor of Philosophy (PhD) or Doctor of Specialization.**
2) send the thesis for revision (except for cases of thesis defense in the form of a series of articles);
3) refuse to award the degree of Doctor of Philosophy (PhD) or Doctor of Specialization.

Copies of the reviews of the official reviewers are handed over to the doctoral student no later than 5 (five) working days before the defense of the thesis.

Official Reviewer:

Deputy Head of the Academy of the Ministry of Internal Affairs named after M. Yesbolatov of Almaty city, PhD Professor, Police Colonel **Yerzhan Bimoldanov**