Facing Digital Age: Should the Regional Regulation Be Made Digitally?

Fatkhurohman[1]✉
Sirajuddin[2]
Sholahuddin Al-Fatih[3]

[1,2]Faculty of Law, Universitas Widyagama Malang, Indonesia
[3] Faculty of Law, Universitas Muhammadiyah Malang, Indonesia.

✉fatkhurohman398@gmail.com

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Abstract

In forming a Regional Regulation, the Regent must interact formally with the Governor and the Ministry of Law and Human Rights through a facilitation and consultation evaluation mechanism. Providing recommendations for assessing draft regional regulations can confuse those proposing them because suggestions for improvements between the Governor and the Ministry of Law and Human Rights are not well coordinated and are carried out manually. This research aims to find a solution by optimizing coordination methods with digital application networks, especially in establishing regional regulations so that they occur quickly and accurately. This research will later be carried out using an empirical juridical approach, where researchers will delve more into primary data by discovering countless realities in the field regarding the effectiveness and efficiency of the implementation of evaluations by the Governor and the Ministry of Law and Human Rights during the implementation of the assessment of draft regional regulations. This research shows that coordination between the Governor and the Ministry of Law and Human Rights needs to be carried out jointly based on an agreement in evaluating regional regulation proposals so that assessments are distinct. To make this process runeffectively and efficiently, it is better to do it online via a digital application.

1. Introduction

In accordance with Law No. 23 of 2014, the governor's rights and powers are appropriate to ensure the formulation of quality regional regulations. It is crucial to raise awareness since we are constantly confronted with harmful regional legislation and other issues in the era of regional autonomy. Previous research has shown that the growth of this problem has resulted in conditions that need to be improved over time but are becoming more concernede.[1] This was felt after the Ministry of Home Affairs released another report on the ongoing issue of regional regulations. According to a statement issued by the Minister of Home Affairs of the Republic of Indonesia on April 18, 2016, the Ministry cancelled 920 problematic rules, most of which were regional regulations that hampered investment and promoted intolerance and prejudice. The Ministry of Home Affairs targets 3,000 comparable regional regulations to be dropped by June 2016.[2]

It was explained in more detail that the regional regulations canceled consisted of 105 regulations/decisions of the Minister of Home Affairs, 104 provincial regulations and governor regulations, as well as 675 district/city regulations and regent/mayor regulations.[3] According to the report made by the Regional Autonomy Implementation Monitoring Committee (KPPOD) based on its research, the number of problematic regional regulations has actually increased over the last year. If the average number of problematic regional regulations previously only 30 percent now the number has

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[1] Uu Nurul Huda, "The Effect of Cancellation of Regional Regulations on Retribution Toward Regional Financial Regency In West Java," *De Jure: Jurnal Hukum Dan Syar'iah* 12, no. 1 (June 29, 2020): 64–85, https://doi.org/10.18860/j-fsh.v12i1.8796; Sukardi Sukardi and Dodi Jaya Wardana, "Does the Government Have the Authority to Annul Regional Regulations?," *Legality : Jurnal Ilmiah Hukum* 32, no. 2 (August 1, 2024): 263–76, https://doi.org/10.22219/ljih.v32i2.35027.

[2] Nurul Aprianti, Muchamad Ali Safa'at, and Indah Dwi Qurbani, "Dualisme Model Pengujian Peraturan Daerah Pasca Undang-Undang Nomor 11 Tahun 2020 Tentang Cipta Kerja," *Jurnal IUS Kajian Hukum Dan Keadilan* 9, no. 2 (August 27, 2021): 472–85, https://doi.org/10.29303/ius.v9i2.919.

[3] Abdul Kadir Jaelani and Muhammad Jihadul Hayat, "The Proliferation of Regional Regulation Cancellation in Indonesia," *Journal of Human Rights, Culture and Legal System* 2, no. 2 (November 13, 2022): 121–38, https://doi.org/10.53955/jhcls.v2i2.38; Catur Wido Haruni, "Constitutionality of Monitoring and Evaluation of Regional Regulation Drafts and Regional Regulations by Regional Representative Council," *Legality : Jurnal Ilmiah Hukum* 30, no. 1 (April 13, 2022): 103–15, https://doi.org/10.22219/ljih.v30i1.20532.

reached 51 percent or 262 out of 507 regional regulations.[4]

 The Regional Autonomy Implementation Monitoring Committee (KPPOD) stated in more detail that there were at least 347 problematic regional regulations (PERDA) with the potential to hamper investment. Based on the KPPOD study, it was found that 235 problematic regional regulations were related to regional taxes and levies, 63 dealth with to licensing, seven were related to employment issues, and 42 regional regulations were linked to other matters. Many of these regional regulations have problems in terms of juridical aspects, substance, and principles. Based on the Ministry of Home Affairs records, from 2015 to July 2019, there have been 290 provincial regulations related to investment.[5]

According to data sources at the Ministry of Home Affairs of the Republic of Indonesia, where it ich also plays a role as supervisor of the issuance of regional regulations, the notes regarding the canceled and problematic regional regulations are as follows. a) From 2002-2009, there were 1879 regional regulations that were canceled b) In 2010, 3000 Regional Regulations were clarified and 407 were found to be problematic. c) In 2011, 9000 Regional Regulations were clarified and 351 were found problematic. d) In 2012, there were 3000 Regional Regulations clarified and 173 were problematic. e) in 2013, Clarification of 2500 Regional Regulations was made and 215 Regional Regulations were problematic. f) In 2014, Clarification of 2500 Regional Regulations was done in 2014 and 354 problematic Regional Regulations was found problematic.[6]

Based on previous research, it was revealed that the supervision (evaluation) model carried out by the governor was still conducted manually (face-to-face). This model causes many problems, including: a) Those proposing regional regulations sent incompetent staff to facilitate the Governor, that should be the responsibility of the Legal Bureau; b). The Legal Bureau was also inconsistent in providing notes and

[4] Kompas, "Menjaga Toleransi Lewat Peraturan Daerah," *Kompas.Com*, March 29, 2017, https://nasional.kompas.com/read/2017/03/29/10170511/menjaga.toleransi.lewat.peraturan.daerah?page=all.

[5] KPPOD, "3.266 Perda Ancam Investasi, Toleransi, Dan Kesetaraan," *Komite Pemantauan Pelaksanaan Otonomi Daerah*, 2017, https://www.kppod.org/berita/view?id=512.

[6] Taufik Simatupang, "Peran Perancang Peraturan Perundang-Undangan Kantor Wilayah Kementerian Hukum Dan Ham Dalam Rangka Harmonisasi Peraturan Daerah," *JIKH* 11, no. 1 (2017): 12–25.

findings with the formal recommendations given to the party proposing the draft regional regulation; c). The occurrence of transfers of Legal Bureau employees also affected the facilitation process; and d). Regarding the timing of applications for facilitation and then being invited to facilitate and the results of the facilitation were sometimes not in accordance with what was mandated by Minister of Home Affairs Regulation Number 80 of 2015 concerning the Formation of Regional Legal Products.[7]

These problems increased along with the formation of the authority to draft legislative regulations from the Department of Law and Human Rights, which was mandated by the Regional Office (Kanwil) of each province based on the stipulation of Article 36 paragraph (30 of Law Number 12 of 2011 concerning the Formation of Legislative Regulations (UUP3), tasked with evaluating regional regulations proposed by both the Regent and the Regional People's Representative Council (DPRD) initiative.[8] Thus, the proposer of the draft regional regulation (both the Regent and the DPRD) must face 2 (two) institutions, namely the Governor and the Department of Law and Human Rights. The initial research conducted shows that the evaluation results from these 2 (two) institutions often confuse draft regional regulation proponents because recommendations for improvement are often not well coordinated.[9]

On this basis, it is necessary to build a coordination model for evaluating regional regulations effectively and efficiently. Implementation of harmonization of laws and regulations in Indonesia is an urgent need simply because legal development problems increasingly require a holistic approach.[10] One of the manifestations is the formation

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[7] Interview with Mr. Choirul, the representative of DPRD Perwakilan Rakyat Daerah of Partai Kebangkitan Bangsa, Tulngagung on 2 May 2018

[8] Fauzi Syam et al., "Why Should the Role of the House of Representatives in Monitoring and Review Local Regulations Be Strengthened?," *Journal of Indonesian Legal Studies* 9, no. 1 (May 8, 2024): 417–56, https://doi.org/10.15294/jils.vol9i1.4578; Imam Asmarudin et al., "Initiating the Reform of Principle Norms in the Formation of Laws in Indonesia," *Jurnal IUS Kajian Hukum Dan Keadilan* 12, no. 2 (August 19, 2024): 208–26, https://doi.org/10.29303/ius.v12i2.1390.

[9] Wido Haruni, "Constitutionality of Monitoring and Evaluation of Regional Regulation Drafts and Regional Regulations by Regional Representative Council"; Novendri Mohamad Nggilu, Lisnawaty Wadju Badu, and Suwitno Yutye Imran, "Legal Protection Bonda And Bulango Languange : In Reality And Prospect," *Jambura Law Review* 3, no. 1 (2020): 19–36, https://doi.org/10.33756/jlr.v3i1.6947; Said Amirulkamar et al., "Administration Reagent of Aceh Family Law Qanun: Siri Marriage Motives Towards the Legality of Polygyny," *De Jure: Jurnal Hukum Dan Syar'iah* 15, no. 1 (July 23, 2023): 129–43, https://doi.org/10.18860/j-fsh.v15i1.21352.

[10] Munif Rochmawanto et al., "Urgency of Establishing Responsive Local Regulations to Realize Good Local Governance," *Technium Social Sciences Journal* 38 (December 9, 2022): 192–96,

of a digital application, where the proposer of the draft regional regulation with the governor and the Ministry of Law and Human Rights can simply communicate and interact through the application media. In this case, the person proposing the draft regional regulation simply sends it via the application, and the appraiser provides important notes on the changes.

The advantage of this application is that, firstly, when carrying out the evaluation stage, the Regent/DPRD does not need to meet face-to-face with the Governor and the Department of Law and Human Rights but simply consults via the Internet network. This stage is then followed by a face-to-face meeting to check the final perfection of the substance of the draft regional regulation. Second, coordination through the application system between the Governor and the Law and Human Rights department gives notes on the evaluation process of the draft regional regulations submitted by the Regent and the DPRD. This method can be called pre-facilitation activities. The above issues have triggered researchers to explore deeper into the problems by creating a digital application planned to be called the Draft Regional Regulation Evaluation Coordination System (SIKORVADA).

2. Problem Statement

Based on the background above, since many regional regulations are not cancelled due to disharmony in the relationship and control mechanisms between the regional government and the Ministry of Law and Human Rights, this scientific article tries to formulate research problems, namely: is there any mechanism for drafting regional regulations based on coordination between institutions in the digital era?

3. Methods

This research utilizes an empirical-legal method, also known as non-doctrinal legal research. This approach has emerged in the field of legal studies due to the rapid transformative changes in society, where traditional legal frameworks often fall short

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https://doi.org/10.47577/tssj.v38i1.7835; Novendri M. Ngilu et al., "Legislative Omission: Portrait of Regional Waste Management Arrangements in Gorontalo Province-Indonesia," *IOP Conference Series: Earth and Environmental Science* 1270, no. 1 (December 1, 2023): 012008, https://doi.org/10.1088/1755-1315/1270/1/012008.

in effectively managing these developments.[11] Consequently, it is essential for legal science to incorporate sociological perspectives to address the complex issues arising from social changes that are closely intertwined with legal matters.[12]

The steps that carried out in this research would reveal the effectiveness and efficiency of the supervision made by the governor in the formation of district regional regulations. The Law Department of East Jawa Province, Pasuruan Regency, and Malang Regency Government, as well as the Ministry of Home Affairs, were chosen as the research locations. Primary and secondary data were used. Data collection for this research involved a combination of document analysis, observation, and in-depth interviews. By integrating these three methods, we aim to obtain realistic and objective information from the targeted data sources. The objectivity and accuracy of the data are crucial in ensuring the validity of the findings, which in turn will significantly impact the overall quality of the research results.

The analysis was conducted on data collected from primary, secondary, and tertiary legal materials, as well as insights from experts. These data were then examined using theoretical and conceptual frameworks to address the research problem effectively. Given the juridical nature of the data, a qualitative analysis was employed, with the findings presented in a descriptive format. The data analysis process began intensively from the moment data collection started and continued until it was complete. This analysis was conducted almost simultaneously with data interpretation, allowing for quick insights without waiting for large amounts of data to accumulate.

4. Coordination Between the Institution; An Overview

The coordination pattern between the Governor and the Regional Office of the Ministry of Law and Human Rights is in the context of monitoring the formation of Regency Draft Regional Regulations. The word "supervision" comes from the word awas, which means, among other things, "guarding". The term supervision is known in management science and administrative science, namely as an element in management activities.

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[11] Irwansyah Irwansyah, *Penelitian Hukum: Pilihan Metode & Praktik Penulisan Artikel* (Yogyakarta: Mirra Buana Media, 2020).

[12] Nurul Qamar Farah Syah Rezah, *Metode Penelitian Hukum Doktrinal Dan Non-Doktrinal* (Makassar: Social Politik Genius, 2020).

George R. Tery uses the term "control",[13] as quoted by Muchsan: Control determines what has been achieved, evaluates and implements corrective action, ensuring results are in accordance with the plan.[14]

Muchsan is of the opinion that: "supervision is an activity to assess the de facto implementation of tasks, while the purpose of supervision is only limited to checking whether the activities carried out are in accordance with previously established benchmarks (in this case, in the form of a plan/plan)."[15] Kucher views control as: "a function and at the same time a right, so it is commonly called a control function, or control rights. Control contains dimensions of supervision and control. Supervision is related to restrictions, while control is related to directives.[16]

There are two types of supervision:[17]

a) Repressive supervision uses coercive methods and threatens sanctions to achieve its goals.

b) Normative supervision uses a synchronized understanding of values and goals.

Supervisory Authority Theory, includes:[18]

a) Legitimacy *(Legitimiteit)* where supervision is carried out by an authorized body;

b) Supervision using expertise *(Deskundingheid)*;

c) Trusted supervision *(Geloop)*;

d) Legal awareness *(Rechtsbewustzijn)*.

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[13] Retno Saraswati, Aprista Ristyawati, and Rigan Sasunu Basworo, "Recent Developments and Changes in the Governance of Regional Legal Products in Indonesia: Supervision, Evaluation and Clarification Mechanisms," *International Journal of Innovation, Creativity and Change* 12, no. 7 (2020): 1–9.

[14] Mukhsan, *Sistem Pengawasan Terhadap Perbuatan Aparat Pemerintah Dan Peradilan Tata Usaha Negara Di Indonesia* (Yogyakarta: Liberty, 2007), 56.

[15] Mukhsan, *Sistem Pengawasan Terhadap Perbuatan Aparat Pemerintah Dan Peradilan Tata Usaha Negara Di Indonesia*.

[16] Oleksii Kucher, "Functions and Principles of Supervision and Control Over Compliance with Labor Legislation," *Revista General de Derecho Administrativo* 66 (2024).

[17] Joon Hyung Park et al., "Abusive Supervision, Psychological Distress, and Silence: The Effects of Gender Dissimilarity Between Supervisors and Subordinates," *Journal of Business Ethics* 153, no. 3 (December 2018): 775–92, https://doi.org/10.1007/s10551-016-3384-3.

[18] Paolo Bertrando and Gabriella Gilli, "Theories of Change and the Practice of Systemic Supervision," in *Mirrors and Reflections*, ed. Charlotte Burck and Gwyn Daniel, 1st ed. (Routledge, 2018), 3–26, https://doi.org/10.4324/9780429477300-2.

The basic meaning of supervision involves the following:[19]

    a) Supervision is intended as a management effort to achieve the results of the objectives;

    b) There are benchmarks used as a reference for success;

    c) There are activities to match the results achieved with the benchmarks set;

    d) Supervision prevents mistakes and shows the correct methods and goals;

    e) There are corrective actions if the results achieved are not in accordance with the established benchmarks.

Supervision is part of the management function, and it must be able to prevent irregularities and misuse. Supervision must be able to make efforts to carry out follow-up actions with improvement efforts to achieve better goals, which needs integrated coordination as support. Therefore, supervision should find the causes of errors and ways to carry out improvements through the guidance provided to ensure that better results are achieved in accordance with the goals set.[20]

Preparing an effective monitoring model carried out by the Governor to prevent problematic regional regulations involves the following main principles that need to be stated in the regulations:[21]

    a) Accountability. The ability and commitment to supervise the formation of regional regulations to account for all activities carried out to stakeholders in accordance with the provisions of statutory regulations.

    b) Transparency. Openness and the ability to present relevant information in a timely manner in accordance with applicable laws and regulations and reporting standards to stakeholders.

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[19] Dinna Mayasari and Arry Akhmad Arman, "SupTech Governance in Regulatory/Supervisory Government Agencies: A Systematic Literature Review," in *2022 International Conference on Information Technology Systems and Innovation (ICITSI)* (2022 International Conference on Information Technology Systems and Innovation (ICITSI), Bandung, Indonesia: IEEE, 2022), 151–56, https://doi.org/10.1109/ICITSI56531.2022.9970863.

[20] Mayasari and Arman.

[21] Saraswati, Ristyawati, and Basworo, "Recent Developments and Changes in the Governance of Regional Legal Products in Indonesia: Supervision, Evaluation and Clarification Mechanisms."

c) Fairness. Providing supervision services for the formation of regional regulations to every organizer and manager of primary and secondary education without distinction of status and without exception.

d) Prevention. Supervisory activities must be able to predict future orientation to avoid the possibility of deviation or fraud at an early stage.

e) Control. Supervision must be able to provide technical, operational, and administrative guidance and assistance in providing solutions to any problems in the management and administration of primary and secondary education.

f) Improvements and Enhancement. Supervision activities seek to find the causes of errors and how to correct them to achieve better and better results in accordance with the objectives of the national education system.

g) Objectivity and Coordination. Supervision must be based on facts that are assessed based on the determined provisions to ensure that they work together well in its implementation so that activities are realized, integrated, and aligned, and the goals of the national education system are achieved.

The stages in the formation of Regional Regulations include the Planning, Drafting, Discussion, Determination, and Promulgation Stages. In the stages above, the Governor's authority begins to operate during the Determination Stage. Apart from the Determination stage, another crucial authority of the Governor lies in the Cancellation Stage of Regional Regulations.[22] Regarding this, the researchers, in this case, provide an illustration that the supervision carried out by the Governor over Regency/City Regional Regulations lies in two areas:[23]

a) Supervision before the Regional Regulation is enacted (Determination Stage);
b) Supervision after the Regional Regulation is executed (Cancellation Stage).

These two supervisions are based on the regulations in Law Number 23 of 2014. Normatively-juridically, these two supervisions are also regulated in positive laws and regulations in Indonesia, namely Presidential Regulation Number 87 of 2014 concerning Implementing Regulations of Law Number 12 of 2014 2011 concerning the

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[22] Saraswati, Ristyawati, and Basworo; Sukardi and Wardana, "Does the Government Have the Authority to Annul Regional Regulations?"
[23] Sukardi and Wardana, "Does the Government Have the Authority to Annul Regional Regulations?"

Formation of Legislative Regulations. In the Presidential Decree, Article 1, numbers 17 and 18 contain the words evaluation and clarification. Apart from evaluation and clarification, there are also other supervisions that fall under the authority of the Governor, namely supervision of consultations and supervision of facilitation.[24]

The supervision of this consultation is regulated in Minister of Home Affairs Regulation Number 105 of 2016 concerning the Evaluation of Draft Regional Regulations Concerning Regional Taxes and Draft Regional Regulations concerning Regional Retributions and is also regulated in Minister of Home Affairs Regulation Number 80 of 2015 concerning the Formation of Regional Legal Products. Meanwhile, the authority to supervise this facilitation is ruled in Minister of Home Affairs Regulation Number 80 of 2015 concerning the Formation of Regional Legal Products.[25]

Furthermore, designing regulatory coordination tools using digital technology turns out to have advantages:

1) In terms of the integrity of data during the transmission process, when information is transmitted in the form of a digital signal, even though it has traveled quite a long distance, the integrity of the data will still be maintained;

2) The digital signal will undergo regeneration. Damaged signals will be replaced by new signals;

3) This digital technology allows us to distribute information in various types and in large quantities simultaneously;

4) Flexible Communication System Digital technology through Integrated Service Digital Network (ISDN) technology, popularly known as integrated service digital telecommunications network in Java, can deliver various information in a single network. The ISDN brings a revolution in the way we communicate. We can exchange images, graphics, and data easily, quickly, anywhere, and at any time;

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[24] Syam et al., "Why Should the Role of the House of Representatives in Monitoring and Review Local Regulations Be Strengthened?"

[25] Gazali, "Community Participation in Shari'ah-Based Regional Regulations in Indonesia," *Manchester Journal of Transnational Islamic Law and Practice* 20, no. 2 (2024): 85–107; Huda, "The Effect of Cancellation of Regional Regulations on Retribution Toward Regional Financial Regency In West Java."

5) Cost Efficiency due to the existence of integrated circuit (IC) technology known as chips allows for lower production costs; digital technology tools are more stable, practical, and have long durability

5. The importance of using applications by the Governor and the Ministry of Law and Human Rights in monitoring and assessing the formation of Regency/City regulations

Given the complexities of our reality, digital media applications are invaluable tools for simplifying various challenges. The era of the Industrial Revolution 4.0 highlights the use of robotic power, enabling activities to be conducted more effectively and efficiently in terms of both time and cost through internet facilities. Today, the Internet, as a manifestation of information and telecommunications technology, is a pivotal technology continually developed by numerous organizations and individuals. Both individuals and organizations are constantly evolving, with current transformations in information delivery, as well as social, economic, and cultural changes driven by advanced information and communication technology, profoundly impacting people's lives.[26]

This device operates on an automation concept, functioning without the need for human intervention. Interestingly, data collection and exchange can be executed in real-time as needed via the Internet. This allows authorized parties to interact with and access records within an institution anytime and anywhere, provided they have an internet connection. New innovations have emerged, including the Internet of Things (IoT), Big Data, 3D printing, Artificial Intelligence (AI), driverless vehicles, genetic engineering, robots and smart machines. The Internet of Things became one of the biggest innovations of the Industrial Revolution 4.0.[27]

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[26] Samiya Khan, "Digital Industrial Revolution," in *Sustainability in Industry 5.0*, by C. Kishor Kumar Reddy et al., 1st ed. (Boca Raton: CRC Press, 2023), 39–48, https://doi.org/10.1201/9781032686363-3; Abdulsadek Hassan et al., "The Usage of Digital Media in Society," in *From the Internet of Things to the Internet of Ideas: The Role of Artificial Intelligence*, ed. Abdalmuttaleb M. A. Musleh Al-Sartawi, Anjum Razzaque, and Muhammad Mustafa Kamal, vol. 557, Lecture Notes in Networks and Systems (Cham: Springer International Publishing, 2023), 135–46, https://doi.org/10.1007/978-3-031-17746-0_12.
[27] Mohd Javaid et al., "Significant Applications of Big Data in Industry 4.0," *Journal of Industrial Integration and Management* 06, no. 04 (December 2021): 429–47, https://doi.org/10.1142/S2424862221500135; José Roberto Emiliano Leite et al., "New Technological Waves Emerging in Digital Transformation: Internet of Things IoT/IoE, 5G/6G Mobile Networks and Industries 4.0/5.0," in *Proceedings of the 8th Brazilian Technology Symposium (BTSym'22)*, ed. Yuzo Iano

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The various advantages of using the Internet through its various applications are obvious, serving as a powerful medium for interaction, communication, and execution within gov ernment bureaucracy. The shift towards digital applications in this field appears unavoidable, as they offer solutions to numerous challenges. This includes addressing issues in the manual (face-to-face) formation of district and city regulations, which are time-consuming and costly. Digital applications streamline the entire process—from data input and processing to output—ensuring efficient and accurate outcomes.[28]

A web application appears to be the most suitable digital tool for drafting regional regulations. This type of application operates with an internet connection and requires database storage on a hosting server, ensuring that all data is centralized in one digital repository.[29] Key characteristics that indicate the quality of the application include its ability to meet user needs, its quick response to commands, compatibility across various platforms, and its efficiency in using resources such as the processor, memory, and storage.[30] The plan for creating a digital application for coordinating this draft regional regulation consists of various stages:[31]

1) Planning (preparation of time schedule, cost, team structure).

et al., vol. 353, Smart Innovation, Systems and Technologies (Cham: Springer International Publishing, 2023), 329–39, https://doi.org/10.1007/978-3-031-31007-2_30.

[28] Department of Information Systems, STMIK Pringsewu, Lampung, Indonesia. et al., "Application Design of Electronic ID Card," *International Journal of Engineering and Advanced Technology* 8, no. 6s2 (October 10, 2019): 928–32, https://doi.org/10.35940/ijeat.F1283.0886S219; Soonhee Kim, "Do Leadership and Management for Results Matter? A Case Study of Local E-Government Performance in South Korea," in *Research in Public Policy Analysis and Management*, ed. Clay Wescott, Bidhya Bowornwathana, and Lawrence R. Jones, vol. 18 (Emerald Group Publishing Limited, 2009), 307–33, https://doi.org/10.1108/S0732-1317(2009)0000018014.

[29] Velin Hadzhiev and Aldeniz Rashidov, "Implementation of a Data and Information Management System Based on a Hybrid Model for Structuring, Storing, and Processing Distributed Data on the Internet," in *2022 13th International Conference on Computing Communication and Networking Technologies (ICCCNT)* (2022 13th International Conference on Computing Communication and Networking Technologies (ICCCNT), Kharagpur, India: IEEE, 2022), 1–6, https://doi.org/10.1109/ICCCNT54827.2022.9984384.

[30] Vitor Maia, Taisa G. Gonçalves, and Ana Regina C. Da Rocha, "Quality Characteristics of Mobile Applications: A Survey in Brazilian Context," in *Proceedings of the XVIII Brazilian Symposium on Software Quality* (SBQS'19: XVIII Brazilian Symposium on Software Quality, Fortaleza Brazil: ACM, 2019), 109–18, https://doi.org/10.1145/3364641.3364654.

[31] Ziboud Van Veldhoven and Jan Vanthienen, "Best Practices for Digital Transformation Based on a Systematic Literature Review," *Digital Transformation and Society* 2, no. 2 (May 16, 2023): 104–28, https://doi.org/10.1108/DTS-11-2022-0057.

2) Analysis of the problem (preparation of materials).

3) Design, database design, creating a sketch of the user interface.

4) Development.

5) Trial (testing).

6) New implementation takes the form of applying the results of the design database to a programming language.

7) Maintenance (hosting license extension, repair of feature problems, system upgrade).

The seven stages in system development are known as the System Development Life Cycle (SDLC). These stages are tailored to the user's requirements for the draft regional regulations, which need facilitation, clarification, consultation, and evaluation. The application workflow begins with the proposer submitting the draft regional regulation through the application. The draft is then received by two assessors: Assessor 1 from the provincial law department and Assessor 2 from the Ministry of Law and Human Rights. After a predetermined period, the appraisers do their evaluations, having coordinated their assessments through the application to ensure harmony and alignment. This coordinated approach is crucial to prevent discrepancies in their evaluations. Once this stage is complete, the assessed draft is returned to the proposer via the application.

Depending on the results of the assessment from appraisers 1 and 2, the extent to which they provide an assessment that if there are indeed quite in-depth repairs, the proposer must immediately repair them within a time lag that is in accordance with the provisions of the statutory regulations. After the repairs are made, they are immediately sent back to Appraiser 1 and Appraiser 2 to check whether the repairs meet expectations until the improvements to the draft regional regulations are completed. However, the interval for repairs will also depend on the time limit determined and the target for enacting the regional regulations.

Upon completing the entire process, the application will generate an approval form from both Assessor 1 and Assessor 2, indicating that the draft bylaw assessment is complete. This streamlined approach ensures that the facilitation, evaluation,

clarification, and consultation processes are conducted efficiently through the application. If a signature from the relevant party is required after the assessment, it can be obtained seamlessly within the application.

This is an illustration of the process of assessing the draft regional regulations through application media where, at a glance, it can be seen that the speed of the assessment time can be measured with the desired target. This is in accordance with the era of digitalization, which is developing very quickly. In its development today, all fields of activity cannot be separated from their uses and benefits.

Distinctive characteristics of Digital Systems are as follows:[32]

1) They can send information at the speed of light.
2) They involve repeated use of information that does not affect its quality and the quantity of information itself.
3) Information can be easily processed and modified into various forms.
4) They can process large amounts of information and send it interactively.

Furthermore, designing regulatory coordination tools using digital technology has the following advantages:[33]

1) Data integrity during the transmission process (When information is transmitted in the form of a digital signal, even though it has traveled quite a long distance, data integrity is maintained);
2) The digital signal will undergo regeneration, and damaged signals will be replaced by new signals;
3) This digital technology allows us to distribute information in various types and in large quantities simultaneously;
4) Flexible Communication System Digital technology through Integrated Service

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[32] Ivan R. S. Casella, Aline De O. N. Panazio, and Murilo B. Loiola, "Overview of Digital Communications," in *Chaotic Signals in Digital Communications*, by Marcio Eisencraft, Romis Attux, and Ricardo Suyama, ed. Marcio Eisencraft, Romis Attux, and Ricardo Suyama, 1st ed. (CRC Press, 2018), 19–82, https://doi.org/10.1201/9781315216256-2.

[33] Professor, Vice-Rector for Innovation, M. Auezov South Kazakhstan State University, Shymkent, Kazakhstan et al., "Calculations of Excess Load on the Network," *NEWS of National Academy of Sciences of the Republic of Kazakhstan* 6, no. 438 (December 15, 2019): 246–55, https://doi.org/10.32014/2019.2518-170X.176.

Digital Network (ISDN) technology or, as popularly known in Indonesia, integrated service digital telecommunications network, can deliver various information in a single network. The ISDN is bringing a revolution in the way we communicate. We can exchange images, graphics, and data easily, quickly, anywhere, and at any time.

5) They are cost-efficient due to the existence of integrated circuit (IC) technology known as chips. These tools can reduce production costs, and are more stable, practical, and durable.

From the description above, it is very clear that the use of digital applications will give a lot of benefits and produce a very optimal and measurable way of working both in terms of time targets and work results.

5.1. System Architecture and Design

The system model developed aims to optimize the coordination function between the governor and the Ministry of Law and Human Rights in monitoring and providing recommendations for draft regional regulations from the regency government. The system model developed is web-based and can be accessed via the Internet on various platforms, such as smartphones, laptops, computers, tablets, and other devices. The application is planted on a centralized server, which provides end-to-end encryption between the client and server through a web firewall, thereby providing a secure service. The system architecture is presented in Figure 1. The system parts are described as follows:

a) The server functions as a computer system that is capable of providing resources for all data storage centers and applications;

b) Web firewall functions as a computer network security system that is able to protect servers from viruses, malware, spam, and other types of attacks from irresponsible people;

c) The database functions as a data storage medium for the application;

d) Internet service is an institution that provides services to end users so they can access systems via the Internet;

e) The information system interface functions as a medium for end users to interact with the system, which is able to provide ways for input, output, and manipulation of the system;

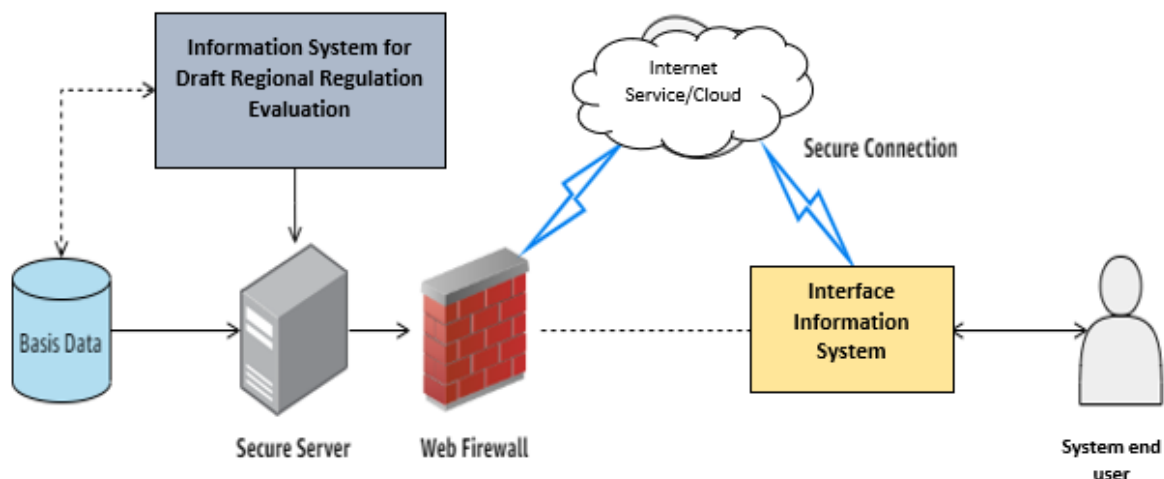f) The end user of the system is the person who uses the system.

Figure 1. Information System Architecture

In its development, an engineering process is required to produce a high-quality system so that it meets the end user's expectations. Therefore, the software development life cycle (SDLC) is used as a development model that consists of several stages. The SDLC used is a hybrid model, which is a combination of iterative and prototyping models, as presented in Figure 2. In general, the SDLC section includes:

a) Collection and analysis of user needs;

b) Planning, which includes preparing work schedules, costs, and team structure;

c) Building system prototypes;

d) System implementation, which includes system development from the final prototype results;

e) System testing;

f) Application of the system to a real environment;

g) System maintenance.

A prototype is a system development strategy that is able to provide satisfaction to the end user of the system. However, system development time and costs can be very high.

The final prototype results that have been approved by the user are then developed. With a system prototype, the development process can be carried out more quickly so that the next stages can be performed later.
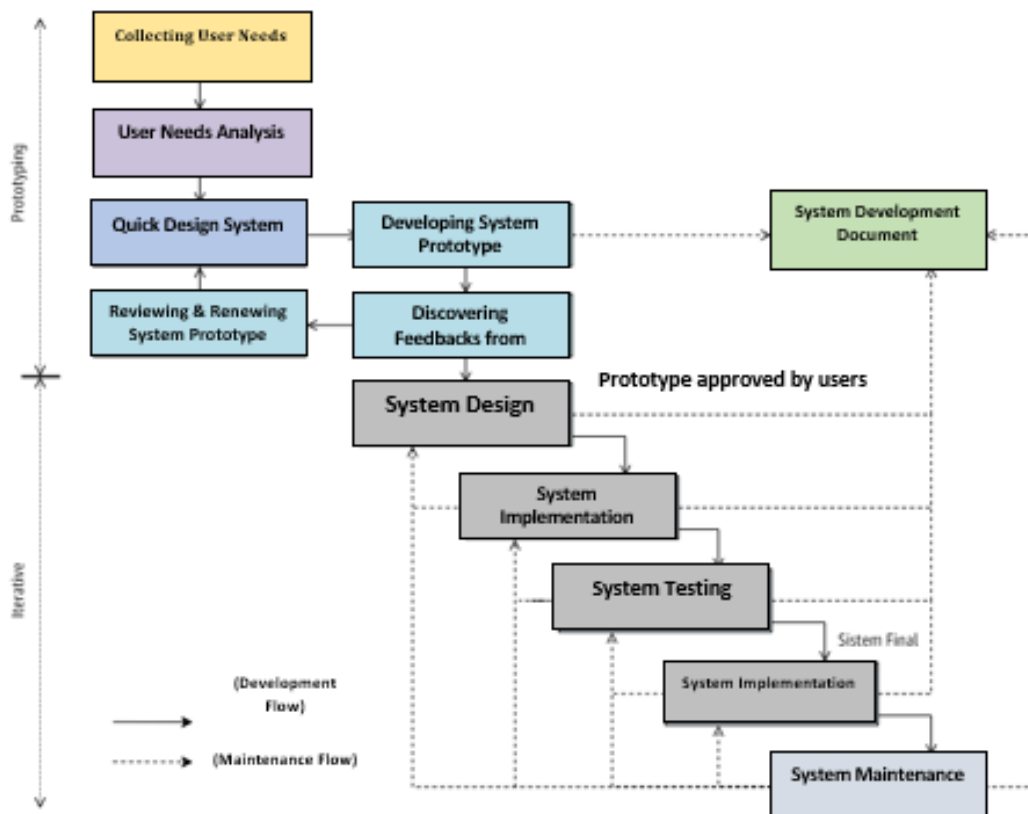

Figure 2. System Development Life Cycle

Next, at the implementation stage, a database model is needed. The system needs such a database to store all data (Figure 3). This model shows the physical organization of data into secondary memory on the server. The user's table represents the users on the system. The documents table describes the draft regional regulation documents uploaded to the system. The evaluation table describes the evaluation results of the draft regional regulations that have been provided through the system. Meanwhile, the log_activity table describes system records made by users.
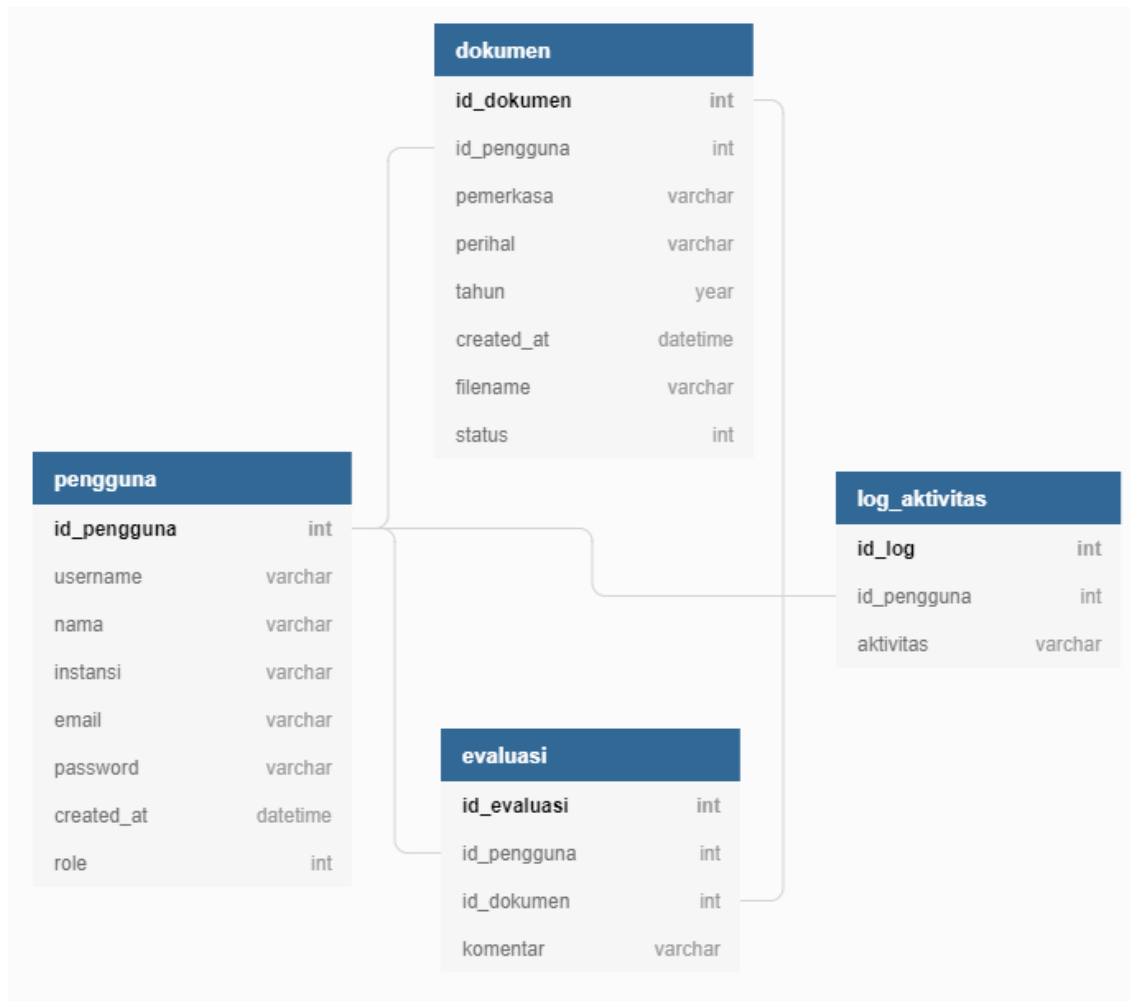
Figure 3. Database Model

5.2. System Architecture and Design

The operating mechanism of the draft regional regulation evaluation system is presented in Figure 4. The main functions of the system include facilitation, clarification, consultation, and evaluation. Each user must have a user account according to their access rights in order to enter the system. First, the party proposing the draft regional regulation sends the draft regional regulation document through the system to be received by Assessor 1, namely the provincial legal department, and Assessor 2, namely the Ministry of Law and Human Rights. After there is an agreed time gap, the Assessor provides an evaluation with coordination between Assessor 1 and Assessor 2. This coordination needs to be a priority scale in the system so that

harmonization occurs in providing complementary assessments between Assessor 1 and Assessor 2. The evaluation draft is then sent back to the proposer.

Next, the proposing party improves the draft regional regulation with a predetermined time interval in accordance with the provisions of the statutory regulations. After the repairs are made, Appraiser 1 and Appraiser 2 check whether the repairs are in line with expectations until the improvements to the draft regional regulations are completed. The improvement interval will depend on the specified time limit and target for enacting the regional regulation. After the entire process has gone through, there is an approval form from Appraiser 1 and Appraiser 2, which is a sign of completion of the draft bylaw evaluation process. In this way, the facilitation, clarification, evaluation, and consultation process run quickly through the system.

Figure 4. Operating System Mechanism
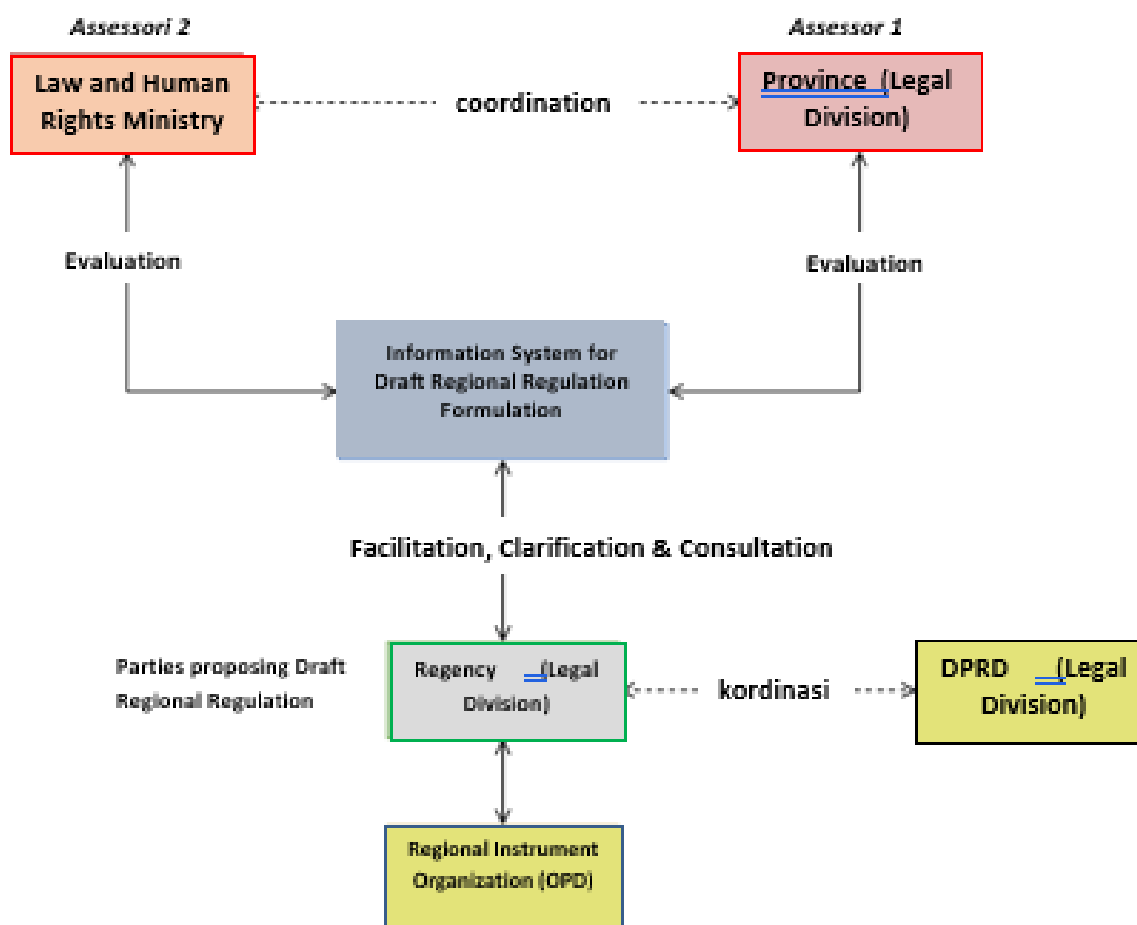
5.3. System Prototype

The prototype design was produced using Figma as a prototyping tool. A prototype of the draft bylaw document page is shown in Figure 5. The Status column shows the status of the draft bylaw proposed by the proposing party. The status sent means that the draft regional regulation document has been sent but has not been evaluated by the Assessor. Evaluated status means that the draft regional regulation document is being evaluated by the Assessor. Revision status means that the draft regional regulation document is currently under revision and must be immediately corrected by the proposing party within the specified time. Meanwhile, approved status means that the draft regional regulation document has been approved by the Assessor. Documents with the status of evaluated, revised, and approved cannot be deleted.
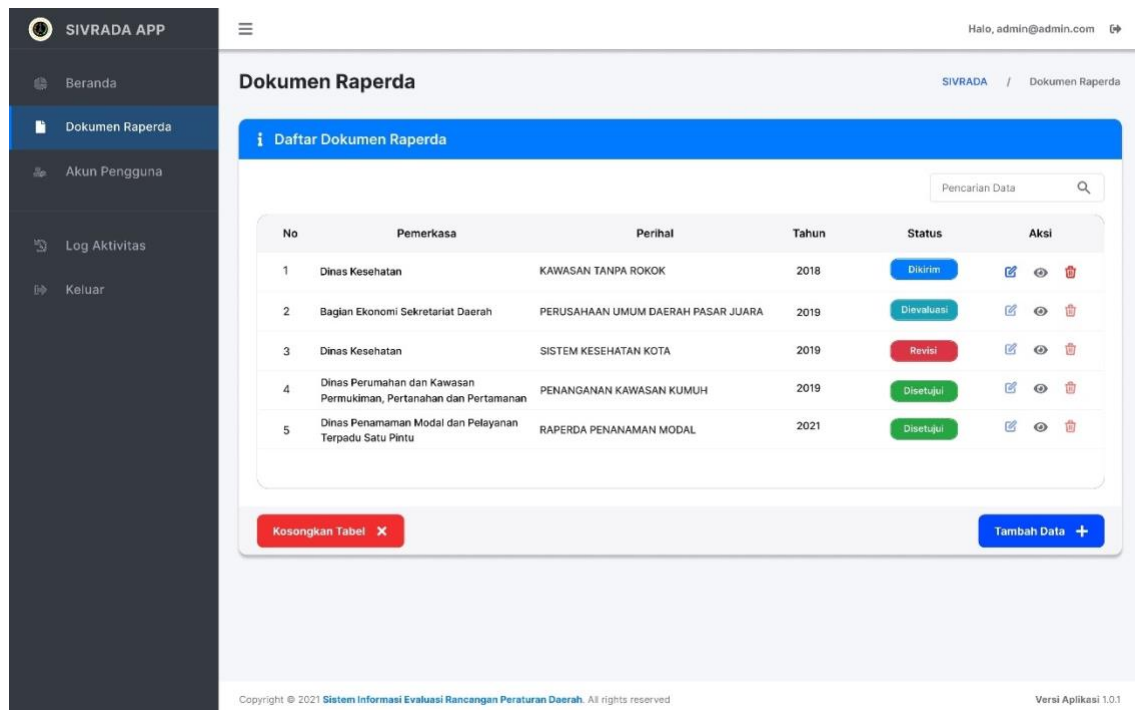

Figure 5. Prototype System for the Proposed Draft Regional Regulation Document List Page

The prototype page for adding a draft regional regulation document is shown in Figure 6. This page is used by the proposer to add a new draft regional regulation. Apart from being written in the draft bylaw framework column, the proposing party must also upload the proposed document.
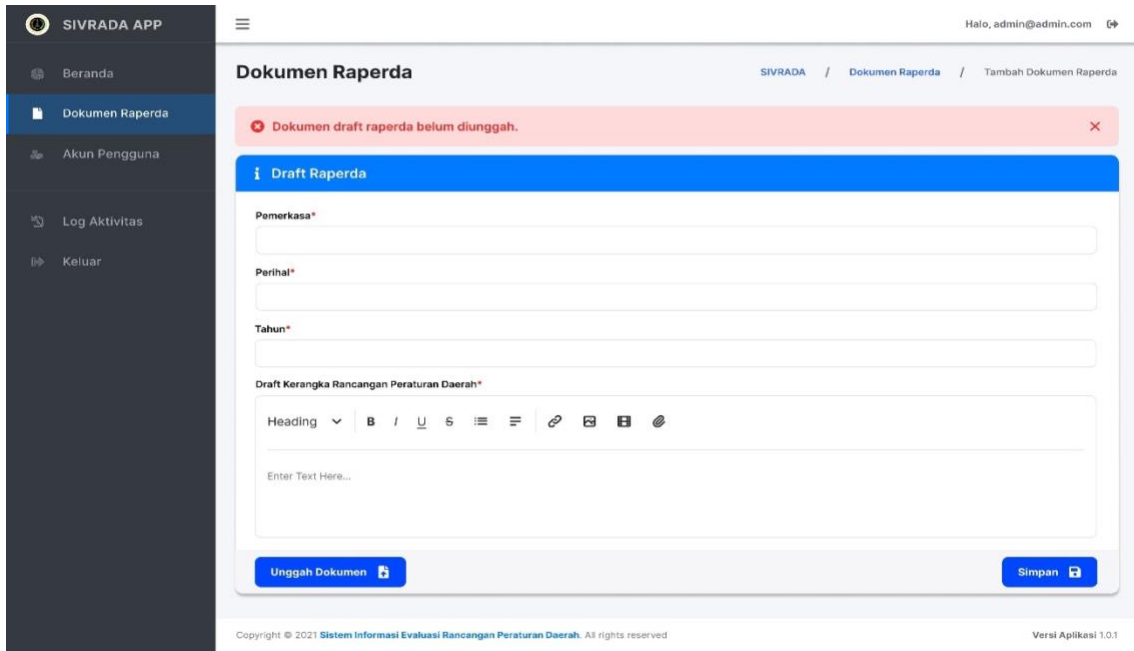
Figure 6. Prototype System for Add Document Page

The prototype of the draft bylaw evaluation results page is shown in Figure 7. On this page, all parties can interact by adding comments. Similar to the function of social media, this page functions as a medium for interaction between related parties. Users who have access can use this function.
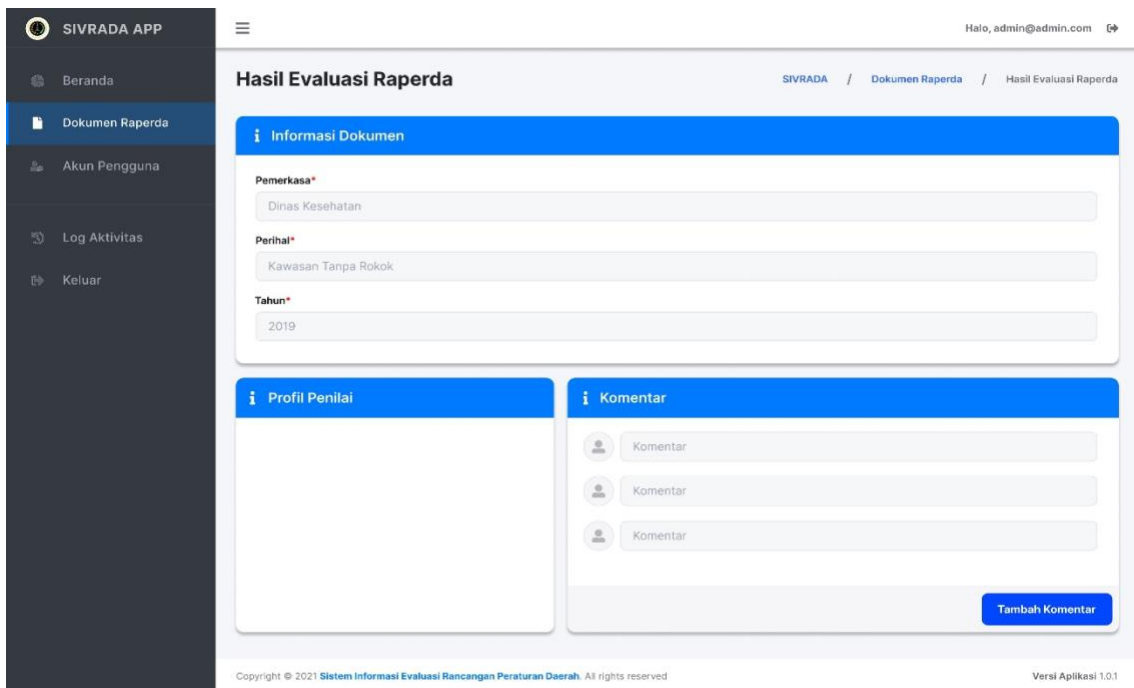

Figure 7. Prototype System for Evaluation Result Page

The prototype of the user account page is shown in Figure 8. This page is used for end-user management of the system. User access rights should be defined as an extension of different system functions. There are three access rights to the system:

a) Superadmin is the highest system access right. All functions available on the system can be accessed. User account pages can only be accessed by superadmin.

b) The proposer is the access right used by the proposer to send the draft regional regulation document.

c) Assessor is the access right used by the Assessor to provide an evaluation of the draft regional regulation document sent by the proposing party.

Users who do not have access rights cannot access the system because of the closed nature of the system, so the confidentiality of the draft regional regulation documents is maintained. New users must submit a new account to the superadmin and then go through a verification process before the account is active.
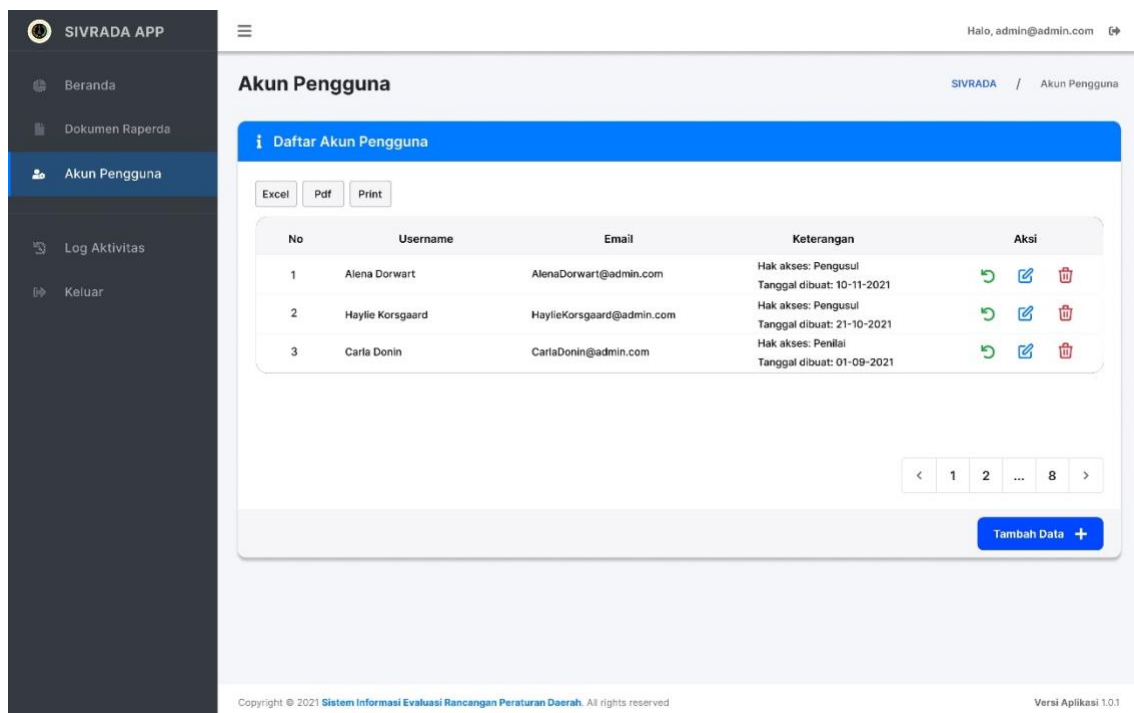

Figure 8. Prototype System for User Account Page

The prototype of the user account page is shown in Figure 9. This page is used to view user activity on the system. The goal is to investigate if something unexpected happens. Every process that the user uses on the system is recorded in this function.
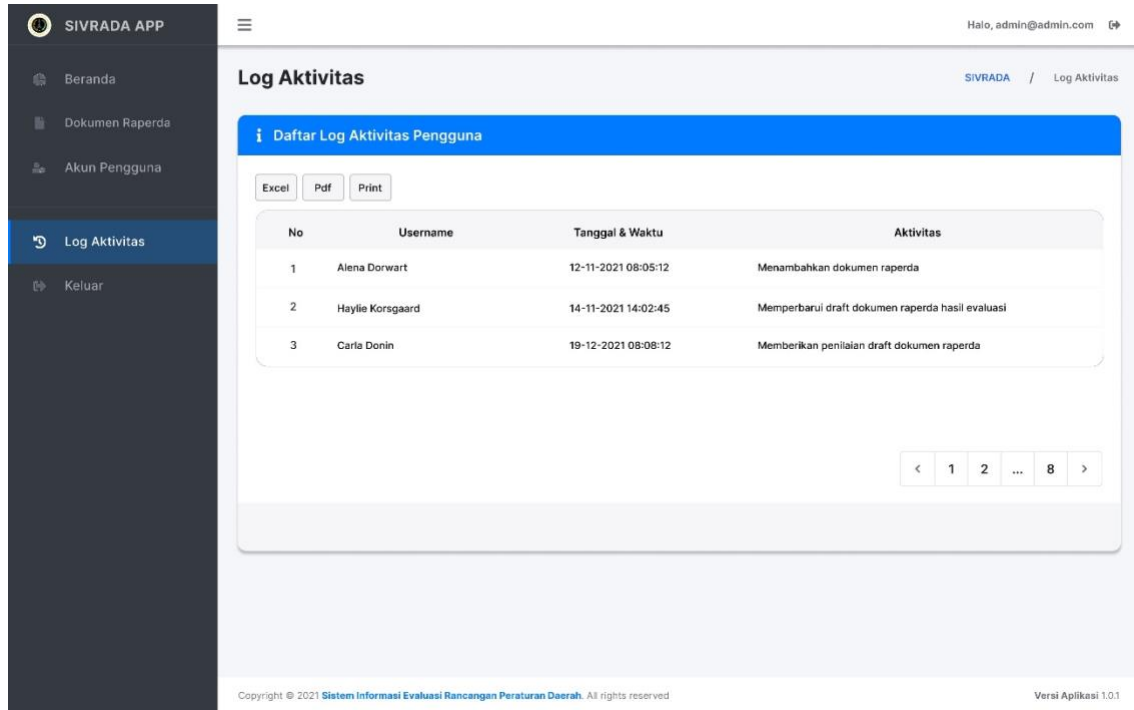

Figure 9 . Prototype System for User Activity Login Page

6. Conclusion

Apart from being related to work trends, the digitalization era will also produce fast, effective, and efficient work processes with more measurable and accurate results. Based on this description, the process of facilitating, coordinating, and evaluating regional regulations will run more quickly, leaving behind the old work style, which tends to be long and bureaucratic, takes a lot of time, and costs a lot of money. Reflecting the importance of technological support in coordinating the formation of regional regulations by district governments, a digital application system must be implemented immediately. This has become a demand of the industrial era 4.0, where the use of technological tools through software is a fundamental need to replace human labor in all fields, including legal fields, especially in the formation of Regency Regional Regulations. For this reason, the Ministry of Human Rights, provincial governments, and district governments must immediately restructure technology-based equipment.

This requires cooperation from the 3 (three institutions) so that the application digitization plan runs simultaneously where the parties involved must support each other.

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