

## **Digital-Based Population Service Innovation**

**Haedar Akib<sup>1</sup>, Syamsiar<sup>2\*</sup>, Didin Halim<sup>3</sup>, Aris Baharuddin<sup>4</sup>, Alimas Jonsa<sup>5</sup>**

<sup>1,3,4</sup> Universitas Negeri Makassar, South Sulawesi, Indonesia

<sup>2</sup> Universitas Puangrimaggalatung, Sengkang South Sulawesi, Indonesia

<sup>5</sup> Universitas Teuku Umar, Aceh, Indonesia

Email: [syamsiarsulaiman69@gmail.com](mailto:syamsiarsulaiman69@gmail.com)\*

### **ABSTRACT**

In the current VUCA (Volatility, Uncertainty, Complexity, Ambiguity) era, innovation in digital-based public services at the Population and Civil Registry Service (Disdukcapil) is a necessity because it supports increasing the efficiency and effectiveness of services and provides easy access for the public. The article resulting from this research explains the effectiveness of digital-based public service innovations that have been implemented at the Polewali Mandar District Dukcapil Office in improving service quality. The type of research used is qualitative with a case study approach to describe, analyze, and explain innovation at the research locus. Data, information, and knowledge were collected using observation, interview, and documentation techniques. The data was analyzed following the interactive model stages which include data collection, data condensation, data presentation, and conclusion drawing/verification. The research results show that the Population and Civil Registry Service in Polewali Mandar Regency implements digital-based public service innovations effectively because they are consistent with the demands and needs of the service user community. Systematic steps such as monitoring, evaluation, outreach, and analysis of service user satisfaction have also been carried out effectively and regularly to improve understanding and quality of services. Based on government commitment, community acceptance, and the selection of appropriate technology, this population's public service innovation can provide maximum benefits for all interested parties.

**Keywords:** Public Services; Service Innovation; Digitalization; Population Affairs

### **INTRODUCTION**

Digital-based public service innovation is important and interesting to research for various reasons, both philosophical-theoretical-methodological reasons and factual practical reasons, especially when directed at a particular locus. Philosophical-theoretical reasons for the importance of research on digital-based public service innovation according to the views of experts and researchers (Barrett et al., 2015; Bharosa et al., 2020; Hadi et al., 2020; Katharina, 2021; Opazo-Basez et al., 2022; Putra et al., 2021; Sukmana, 2022a) is first, in the context of more participatory democratization because digital-based public service innovation increases public participation in the public service process. Second, to create social justice, as per the five basic principles of our country. Third, upholding public service ethics which has been neglected. Fourth, helps increase the efficiency and effectiveness of resource management, reduce administrative costs, and speed up response times to public requests. Fifth, supporting the spirit

of sustainable development because public services provided by sustainable government agencies are seen in an environmental and socio-cultural context.

Apart from these philosophical-theoretical reasons, other experts and researchers (Bertot et al., 2016; Kernaghan, 2014; Lindquist & Huse, 2017; Young, 2020) stated that an important and interesting reason for digital-based public service innovation is to increase government accountability. Digital-based public service innovation is important for improving people's quality of life by providing easier, cheaper, and faster access to public services, as well as helping to improve people's welfare and reduce social inequality (Irawan, 2017; Trisantosa et al., 2022). Furthermore, digital-based public service innovations help expand the reach of public services and increase service accessibility for the community, especially those in remote areas or have physical limitations (Asfa et al., 2018; Irawan, 2017). Likewise, digital-based public service innovation can strengthen regional competitiveness by improving the quality of public services, increasing public trust, and attracting investment to the region (Nurdin, 2018).

The normative basis for the importance of digital-based public service innovation is based on laws, regulations, or policies based on the following levels. First, Law (UU) Number 25 of 2009 concerning Public Services. Second, Government Regulation (PP) Number 71 of 2019 concerning the Implementation of the Government Electronic Service System. Third, Minister of Home Affairs regulation (Permendagri) Number 3 of 2021 concerning Public Services.

According to experts and researchers (Asfa et al., 2018; Bertot et al., 2016; Labib, 2022; Muslim, 2017; Polanunu & Rijal, 2021; Tasyah et al., 2021) several theoretical problems guide research entitled Innovation digital-based public services, namely first, changes in people's behavioral patterns in accessing public services. Second, it is an important step in efforts to adopt technology and innovation in the delivery of public services, so that the consequences not only require technical skills and expertise for public service providers but also require understanding and mastery of the principles of innovation and technology management.

The results of preliminary observations at the research locus show that the problem faced in digital-based public service innovation at the Population and Civil Registration Service Office (Disdukcapil) in Polewali Mandar (Polman) Regency is a lack of access to technology and public understanding. Another problem is the lack of adequate technological infrastructure in several areas in Polman which hinders public access to digital-based public services. Digital-based public service systems also face technical and data security problems that harm the public and affect trust in these innovations. Lack of skilled human resources in using technology and implementing digital-based public service innovations.

Digital-based public service innovation is an effort to improve the quality of public services by utilizing information and communication technology. Experts' views regarding digital-based public service innovation include Considine (2005) who explains the role of digital-based public service innovation in reducing social inequality. In this context, digital-based public service innovation can expand public access to quality public services. Several years later, Nye & Donahue (2000) stated that digital-based public service innovation could support increased government efficiency and effectiveness. In the context of globalization and technological progress, digital-based public service innovation can help the government maintain and increase its legitimacy and authority.

The urgency and significance of this research focus were also stated by Pollitt & Bouckaert (2017) that digital-based public service innovation is very important in facing an era of budget constraints. In this condition, the use of digital technology helps the government to provide more

efficient and effective public services at lower costs. Meanwhile, Ansell & Torfing (2014) stated the importance of public or community involvement in the digital-based public service innovation process. Digital-based public service innovation is a means of strengthening public participation in the decision-making process and increasing government transparency and accountability.

Based on this expert's view, it is clear that digital-based public service innovation supports improving the quality of public services, increasing efficiency, effectiveness, and sustainability of government, reducing social disparities, and strengthening public participation in the decision-making process. However, to achieve optimal results, the implementation of digital-based public service innovation must be carried out by paying attention to the needs and expectations of the community and ensuring security and privacy. This is supported by the views of experts and researchers (Barrett et al., 2015; Bharosa et al., 2020; Katharina, 2021; Labib, 2022; Muslim, 2017; Opazo-Basez et al., 2022; Tasyah et al., 2021) that the benefits of digital-based public service innovation are very large and varied, including the following: 1) Increasing the accessibility of public services, especially those in remote or hard-to-reach areas. 2) Speed up and increase the efficiency of public services, reduce bureaucratization and long waiting times. 3) Increase community participation in the decision-making process and provide faster feedback to the government. 4) Protection of personal data and preventing misuse of personal information. 5) Directing changes in organizational culture that is open to innovation and adaptation of new technology. 6) Development of HR capacity and competency in the organization.

## **METHOD**

This type of qualitative research with a case study approach (Cimini et al., 2021; Gagnon, 2010; Urbinati et al., 2020) describes, analyzes, and explains population public service innovation at its location. This case study approach can provide detailed and extensive information about digital-based public service innovations implemented in the Polewali Mandar Regency Dukcapil Office. Data was collected using observation techniques in research while conducting interviews with selected informants, as well as collecting data, information, and documents that support the results of observations and interviews. The data is analyzed following the interactive model stages which include data collection, data condensation, data presentation, and conclusion (Miles et al., 2014).

The description of the research focus on digital-based public service innovation at the Population and Civil Registry Office of Polewali Mandar Regency is:

- 1) Types of digital-based public service innovations that have been implemented at the Dukcapil Office, such as population information systems, online services for processing population documents, and public service monitoring and evaluation systems.
- 2) Quality of digital-based public services, including responsiveness, accuracy, speed, openness, and ease of use.
- 3) Community participation in using digital-based public services, including the obstacles and challenges faced by the community in using digital-based public services.
- 4) The effectiveness and efficiency of digital-based public service innovations, including the costs and time required to develop and implement these innovations.

## RESULTS AND DISCUSSION

The research results show that the Population and Civil Registry Service of Polewali Mandar Regency implements digital-based public service innovations effectively because they are consistent with the demands and needs of the service user community. Systematic steps such as monitoring, evaluation, outreach, and analysis of service user satisfaction have also been carried out effectively and regularly to improve understanding and quality of services. Based on the government's commitment to the community receiving services, active participation, and the selection of appropriate technology, the implementation of this innovation has been able to provide maximum benefits for the community.

The results of this research show that many public service items are carried out at the Population and Civil Registration Service (Disdukcapil) of Polewali Mandar Regency as follows:

- 1) Recording Biodata of Indonesian Citizens (WNI) in the Territory of the Unitary State of the Republic of Indonesia (NKRI);
- 2) Registration of Foreigners' Biodata;
- 3) Issuance of a New Family Card (KK) due to forming a new family;
- 4) Issuance of a new Family Card due to replacement of Head of Family (Death of Head of Family);
- 5) Issuance of a new family card due to separation of family at one address;
- 6) Issuance of a Family Card due to changes in data;
- 7) Issuance of a Family Card due to loss/damage;
- 8) Issuance of new El Resident Identity Cards (KTP) for Indonesian citizens;
- 9) Issuance of a new El KTP due to moving, data changes, damage, and loss for Indonesian citizens;
- 10) Issuance of new EL KTP for Foreigners;
- 11) Issuance of a new El KTP due to moving, data changes, damage, and loss for foreigners;
- 12) Issuance of new Child Identity Cards for Indonesian citizens;
- 13) Issuance of new Child Identity Cards for foreign children;
- 14) Migration of Indonesian Citizens within the Republic of Indonesia;
- 15) Movement of Foreigners with Permanent Stay Permits (ITAP) within the Republic of Indonesia;
- 16) Movement of Foreigners with Temporary Stay Permits (ITAS) within the Republic of Indonesia;
- 17) Movement of Indonesian citizens out of the territory of the Republic of Indonesia;
- 18) Migration of Indonesian Citizens coming from Abroad;
- 19) Registration for ITAS foreigners coming from areas outside the territory of the Republic of Indonesia;
- 20) Birth Registration of Indonesian Citizens in the Territory of the Republic of Indonesia;
- 21) Registration of Foreign Births;
- 22) Registration of Stillbirths;
- 23) Death Registration in the Republic of Indonesia Territory;
- 24) Registration of Indonesian Citizen Marriages within the Territory of the Republic of Indonesia;
- 25) Registration of Marriages of Foreigners in the Territory of the Republic of Indonesia;

- 26) Registration of Marriage Annulment;
- 27) Divorce Registration;
- 28) Registration of Divorce Cancellation;
- 29) Registration of adoption of children in the territory of the Republic of Indonesia;
- 30) Registration of Children's Recognition in the Territory of the Republic of Indonesia;
- 31) Registration of recognition of children born outside of legal marriage according to the law of belief in God Almighty in the territory of the Republic of Indonesia;
- 32) Registration of Child Validation for Indonesian Citizens in the Republic of Indonesia Territory;
- 33) Registration of Child Validation for Foreign Residents in the Territory of the Republic of Indonesia;
- 34) Registration of legalization of resident children who were born before their parents entered into a legal marriage according to law, religion, or belief in God Almighty in the territory of the Republic of Indonesia;
- 35) Registration of Resident Name Changes;
- 36) Recording of other important events for residents;
- 37) Recording corrections to Civil Registration Deeds with applications with Deed Subjects in the territory of the Republic of Indonesia
- 38) Registration of Cancellation of Civil Registration Deeds for Residents;
- 39) Registration of Civil Registration Deeds without going through a Contrarius Actus court decision;
- 40) Recording Changes in Citizenship Status of Foreigners to Indonesian Citizens in the Territory of the Republic of Indonesia;
- 41) Registration of children born from mixed marriages or children with dual citizenship (ABG);
- 42) Recording Changes in Citizenship Status of Indonesian Citizens to Foreign Citizens;

The service products provided by this service provider are supported by digital information which can be read at the link: <https://dinasdukcapil.polmankab.go.id/Front/detail/produk-pelayanan>. In this service item, various regulations, filling formats, work procedures, and legal standing or regulations governing the service in question have been presented.

Based on these regulations, it has been supported by service standards presented in 2019, 2020, 2021, and finally 2022. Since 2022, every service presented has provided digital services. This is by the implementation of public service standards in various activities carried out, as presented on the website address: <https://dinasdukcapil.polmankab.go.id>.

Population and civil registration administration services have been implemented online. This can be seen on the page: <https://dinasdukcapil.polmankab.go.id/Front/detail/jasa-online>. Digital-based service activities are carried out via WhatsApp. For more detailed information, see Figure 1.



Figure 1. Online services

The information in Figure 1 shows that the service has been carried out online by utilizing social media facilities via WhatsApp. Apart from that, the types of services that can be accessed by the public through this service are also presented. The services that the public obtains online are 1) Issuance of Electronic Identity Cards/E-KTP, 2) Issuance of family cards, 3) Child identity, 4) Transfer of data, 5) Child's birth certificate, 6) Death certificate/change of data, 7) Marriage/divorce certificate, 8) Population data services, and 9) Data consolidation/activation. From these eight data, the application procedures are also conveyed so that you can get service.

Based on this information, researchers also conducted interviews with the Head of the Population and Civil Registry Service in Polewali Mandar Regency and interviews with several other informants (employees as servants and community users or service recipients) who agreed that the service had been carried out online via WhatsApp by presenting various conditions and procedures that have been determined based on applicable regulations. However, in this public service process, there are still people who complain about the services provided. After investigating the causes of dissatisfaction with online service users, it turned out that the fundamental problem was that when the results of the review of the files submitted by the public were submitted, they were still found to lack the completeness required for the type of service

required. These cases occurred because the community took a long time to respond to repair notes from the system.

The results of the interviews show that individually and institutionally the Polewali Mandar Regency Population and Civil Registry Office provides online services via the WhatsApp instant messaging application. This service presents various conditions and procedures that have been determined based on applicable regulations. This effort is carried out to provide convenience, cheapness, speed, accuracy, simplicity, and comfort for the public in accessing digital-based population services.

Apart from this reality, in the service process carried out, there were several complaints submitted by the public regarding the quality of the services provided. A handful of community members complained about delays or unresponsiveness from employees in following up on requests or questions submitted via this online service. However, it appears that the Department of Population and Civil Registry has made efforts to improve it by reviewing the system used.

In this context, it is clear that there is a need for further action to improve and increase the quality of the online services provided. This includes a better understanding of the problems and complaints experienced by the community, as well as increased response and more effective communication between the Population and Civil Registry Services and the community. Apart from that, it is also necessary to evaluate the system used and ensure that the improvements that have been reviewed can be implemented efficiently. According to the informant, by taking appropriate action to resolve complaints and improve service quality, it is hoped that the public can experience significant improvements in accessibility and experience using online services from the Population and Civil Registry Office.

Observations show that based on the problems identified, the service provider, namely the Polewali Mandar Regency Population and Civil Registry Service, realizes the importance of conducting outreach to the community. This socialization aims to provide a basic understanding and clear procedures to the public about how they can take advantage of the digital service innovations that are available.

Socialization is carried out through various communication methods that are effective and easily accessible to the public. One way is to hold meetings or seminars involving the Department of Population and Civil Registry as well as representatives of community leaders. During the meeting, a comprehensive explanation was given regarding the advantages and benefits of the digital service innovations that have been provided. The public is given an understanding of the procedures that must be followed, the requirements required, and the steps that must be taken to utilize these digital services effectively. Apart from that, outreach is also carried out through information campaigns involving social media, websites, brochures, and other communication media that can be reached by the wider community. Through this campaign, the public is given a detailed explanation of the digital service innovations available and how to use them.

The informant as an employee of the Dukcapil Service acknowledged that during socialization, it is important for service providers to actively listen to input and complaints from the public regarding their experiences in using digital service innovations. This will help to increase service providers' understanding of community needs and expectations and enable them to take appropriate corrective action.

By carrying out comprehensive and effective outreach, it is hoped that the public can gain a better understanding of the digital service innovations that have been provided. People will

become more familiar with the procedures for using these digital services, so they can make maximum use of them. It is also hoped that socialization can increase public participation and trust in digital service innovations provided by the Population and Civil Registry Service, as well as reduce complaints and dissatisfaction that may arise. Below are presented the outreach activities carried out by the Population and Civil Registry Service of Polewali Mandar Regency.

Based on the results of this research, it can be stated that innovation in digital-based population services at the research locus has been implemented because it is supported by socialization regarding efficiency and effectiveness as well as the benefits felt by the community as recipients of population services. Some of the findings or innovations that have been targeted from the development of digital-based public services at the research locus are as follows.

Increase service efficiency and effectiveness. This reality is to the understanding of experts and researchers (Barrett et al., 2015; Kovalevskaia et al., 2021; Tasyah et al., 2021) that with digital-based public services, the data filling and verification process can be carried out automatically and quickly, to increase the efficiency and effectiveness of services to the community.

Make it easier to access and use services. Several experts and researchers (Katharina, 2021; Muslim, 2017; Opazo-Basez et al., 2022; Sukmana, 2022b) agree that in the current digital era, people tend to prefer services that are easy to access and use. With digital-based population services, people can access services anytime and anywhere, without having to come to the Disdukcapil office.

Increasing the accuracy and security of population data. With an integrated population information system and e-KTP, population data can be accessed easily and accurately (Bertot et al., 2016; Bhosale et al., 2012; Hadi et al., 2020; Rewagad & Pawar, 2013). Apart from that, a good security system can provide protection and maintain the privacy of people's population data.

Increasing community satisfaction. With digital-based public services that are easy to access and efficient, it is hoped that it can increase public satisfaction with population services provided by Disdukcapil. This reality is per the results of previous research (Hadi et al., 2020; Opazo-Basez et al., 2022; Suhendar et al., 2022; Sukmana, 2022b), both at the same locus and at different loci.

Increase transparency and accountability. In developing digital-based public services, Disdukcapil can provide transparent and accountable information regarding the population services provided, such as the number of online registrations, the number of e-KTP applications, or the level of public satisfaction with the services provided. This is to the conclusions of previous research (Chaeruddin et al., 2024; Chairuddin et al., 2023; Hadi et al., 2020; Horsburgh et al., 2011; Opazo-Basez et al., 2022; Suhendar et al., 2022; Sukmana, 2022b; Virnandes et al., 2024) that digitalization of population services and public services, in general, can increase public trust in the government and the public services provided.

## CONCLUSIONS

The Population and Civil Registry Service of Polewali Mandar Regency has adopted and implemented digital-based public service innovations effectively because they are consistent with government regulations that recommend the need for current population administration and public services. In addition, population service providers have carried out regular monitoring and evaluation activities to identify obstacles and problems that may arise, as well as take appropriate



corrective action. In addition, outreach to the public and analysis of user satisfaction are carried out to support increased understanding and quality of services. Managing public complaints through a website is also an effort to facilitate communication between the public and the government. By implementing these steps, service providers hope to improve the overall quality of public services according to the needs and expectations of the community. Based on the conclusions of the research results, it is recommended that individuals and institutions providing digital-based public services can strengthen the government's commitment as a pioneer in digital-based service innovation: Likewise, government officials must continue to strengthen their commitment to encouraging digital transformation and improving digital-based public services. Clear support and policies need to be implemented to ensure the successful implementation of this innovation. Then, choose and adopt the right technology: Choosing technology that suits the needs and capacity of the organization is the key to success. It is important to conduct a thorough analysis of the required information technology infrastructure and ensure good integration with existing systems. Adequate technical expertise and in-depth understanding of technology, and what is no less important is increasing public understanding of the benefits of digital-based services: Effective outreach and education need to be carried out to increase public understanding of the benefits, added value, and how to use digital-based public service innovations.

## REFERENCES

- Ansell, C., & Torfing, J. (2014). *Public innovation through collaboration and design*. Routledge.
- Asfa, S., Rosalia, F., & Lilih Muflih, L. (2018). *Strategi E-Government Dalam Pelayanan Sertifikat Hak Milik pada Kantor Pertanahan Kota Bandar Lampung*.
- Barrett, M., Davidson, E., Prabhu, J., & Vargo, S. L. (2015). Service innovation in the digital age. *MIS Quarterly*, 39(1), 135–154.
- Bertot, J., Estevez, E., & Janowski, T. (2016). *Universal and contextualized public services: Digital public service innovation framework*. Elsevier.
- Bharosa, N., Meijer, K., & Van Der Voort, H. (2020). Innovation in public service design: Developing a co-creation tool for public service innovation journeys. *The 21st Annual International Conference on Digital Government Research*, 275–284.
- Bhosale, P., Deshmukh, P., Dimbar, G., & Deshpande, A. (2012). Enhancing data security in cloud computing using 3d framework & digital signature with encryption. *International Journal of Engineering Research & Technology*, 1(8), 1–8.
- Chaeruddin, M. A., Syam, H., Akib, H., & Haris, H. (2024). Service Quality-Based Public Trust at City Resort Police in Indonesia. *KnE Social Sciences*, 987–996.
- Chairuddin, M. A., Syam, H., Akib, H., Gultom, E., & Samad, S. (2023). Public Trust in the Perspective of the Role of Actors: What, Why, and How to Improve Public Security and Order. *Technium Social Sciences Journal*, 50, 397–405. <https://doi.org/10.47577/tssj.v50i1.9918>
- Cimini, C., Adrodegari, F., Paschou, T., Rondini, A., & Pezzotta, G. (2021). Digital servitization and competence development: A case-study research. *CIRP Journal of Manufacturing*

*Science and Technology*, 32, 447–460.

- Considine, M. (2005). *Making public policy: institutions, actors, strategies*. Polity.
- Gagnon, Y.-C. (2010). *The case study as research method: A practical handbook*. PUQ.
- Hadi, K., Asworo, L., & Taqwa, I. (2020). Inovasi Dialogis: Menuju Transformasi Pelayanan Publik Yang Partisipatif (Kajian Sistem Pelayanan Malang Online). *Journal of Government and Civil Society*, 4(1), 115–129.
- Horsburgh, S., Goldfinch, S., & Gauld, R. (2011). Is public trust in government associated with trust in e-government? *Social Science Computer Review*, 29(2), 232–241.
- Irawan, B. (2017). Studi Analisis Konsep E-Government: Sebuah Paradigma Baru dalam Pelayanan Publik. *Jurnal Paradigma (JP)*, 2(1), 174–201.
- Katharina, R. (2021). *Pelayanan publik & pemerintahan digital Indonesia*. Yayasan Pustaka Obor Indonesia.
- Kernaghan, K. (2014). Digital dilemmas: Values, ethics and information technology. *Canadian Public Administration*, 57(2), 295–317.
- Kovalevskaia, N., Gilyazeva, E. N., Lobazova, O. F., Duborkina, I. A., & Sokolova, A. P. (2021). Impact of digital services of hybrid cloud-based learning environment on efficiency of education. *Revista Tempos E Espaços Em Educaçao*, 14(33), e15297–e15297.
- Labib, M. M. (2022). Inovasi Layanan Publik Melalui Program CETTAR Berbasis Digital Dalam Mewujudkan Tatanan Pemerintahan Jawa Timur Yang Baik. *Public Inspiration: Jurnal Administrasi Publik*, 7(2), 95–103.
- Lindquist, E. A., & Huse, I. (2017). Accountability and monitoring government in the digital era: Promise, realism and research for digital era governance. *Canadian Public Administration*, 60(4), 627–656.
- Miles, M. B., Huberman, A. M., & Saldana, J. (2014). *Qualitative data analysis: A methods sourcebook*. Thousand Oaks, CA: Sage.
- Muslim, A. I. (2017). *Inovasi Pelayanan Publik Berbasis Teknologi Informasi Dan Komunikasi Pada Pelayanan Laporan Gangguan KAMTIBMAS Melalui Kentongan Online Polres Jember*.
- Nurdin, A. H. M. (2018). Menuju pemerintahan terbuka (open government) melalui penerapan e government. *Jurnal MP (Manajemen Pemerintahan)*, 1–17.
- Nye, J. S., & Donahue, J. D. (2000). *Governance in a globalizing world*. Brookings Institution Press.
- Opazo-Basez, M., Vendrell-Herrero, F., & Bustinza, O. F. (2022). Digital service innovation: a paradigm shift in technological innovation. *Journal of Service Management*, 33(1), 97–120.
- Polanunu, A. B. D., & Rijal, N. K. (2021). Menuju Good Governance: Inovasi Pelayanan Publik Berbasis Digital di Kantor Imigrasi Kelas II Non-TPI Kediri Jawa Timur. *NeoRespublica:*

*Jurnal Ilmu Pemerintahan*, 3(1), 1–19.

- Pollitt, C., & Bouckaert, G. (2017). *Public management reform: A comparative analysis-into the age of austerity*. Oxford University Press.
- Putra, B. K., Dewi, R. M., Fadilah, Y. H., & Roziqin, A. (2021). Reformasi Birokrasi Dalam Pelayanan Publik Melalui Mobile JKN di Kota Malang. *Jurnal Ilmiah Publika*, 9(1), 1–13.
- Rewagad, P., & Pawar, Y. (2013). Use of digital signature with diffie hellman key exchange and AES encryption algorithm to enhance data security in cloud computing. *2013 International Conference on Communication Systems and Network Technologies*, 437–439.
- Suhendar, A., Asmala, T., & Johan, A. (2022). The Effect of Digital Service Quality on Public Satisfaction through Perception of Ease of Use. *Journal of Applied Management and Business Administration*, 1(1), 11–20.
- Sukmana, E. (2022a). Kebijakan Inovasi Pelayanan Publik aalam Pemenuhan Kebutuhan dan Kepuasan Masyarakat Berbasis Website di Era Pandemi di Kabupaten Sumedang. *JISIPOL/ Jurnal Ilmu Sosial Dan Ilmu Politik*, 6(2).
- Sukmana, E. (2022b). Kebijakan Inovasi Pelayanan Publik dalam Pemenuhan Kebutuhan dan Kepuasan Masyarakat Berbasis Website di Era Pandemi di Kabupaten Sumedang. *JISIPOL/ Jurnal Ilmu Sosial Dan Ilmu Politik*, 6(2).
- Tasyah, A., Lestari, P. A., Syofira, A., Rahmayani, C. A., Cahyani, R. D., & Tresiana, N. (2021). Inovasi Pelayanan Publik Berbasis Digital (E-Government) di Era Pandemi Covid-19. *Jurnal Ilmu Administrasi: Media Pengembangan Ilmu Dan Praktek Administrasi*, 18(2), 212–224.
- Trisantosa, I. N., SIP, M. T., Dewi Kurniasih, S. I. P., & Hubeis, I. H. M. (2022). *Pelayanan Publik Berbasis Digital*. Deepublish.
- Urbinati, A., Chiaroni, D., Chiesa, V., & Frattini, F. (2020). The role of digital technologies in open innovation processes: an exploratory multiple case study analysis. *R&d Management*, 50(1), 136–160.
- Virnandes, S. R., Shen, J., & Vlahu-Gjorgievska, E. (2024). Building public trust through digital government transformation: A qualitative study of Indonesian civil service agency. *Procedia Computer Science*, 234, 1183–1191.
- Young, M. M. (2020). Implementation of digital era governance: The case of open data in US cities. *Public Administration Review*, 80(2), 305–315.

