# THE URGENCY OF DIGITAL VILLAGE DEVELOPMENT TO EMPOWER VILLAGE AUTONOMY

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**Abstract:** Based on Law Number 6 of 2014 concerning Villages, village authority is village autonomy and villages are seen as having a fairly large role in providing public services for the community. Along with the development of information and communication technology, a transformation towards a Digital Village must be carried out. This article is the result of legal doctrine research by prioritizing data in library materials. Sources of information are obtained through regulations and scientific publications that are relevant to the research topic. Based on research, social contractual utilitarianism is the philosophical basis for digital transformation in village government and to realize a Digital Village must meet the following requirements. First, participatory, that is, it is prepared with the agreement of the residents and is in line with development plans in the Regency. Second, there is a need for a legal basis in the form of a Village Regulation on Digital Villages which is in accordance with the village development plan and describes the character that the Village wants to develop. Third, have a road map in the form of stages for developing a Digital Village.

**Keywords**: *Village Autonomy; Digital Village; Law; Internet.*

## I. INTRODUCTION

According to Internet World Stats data, Indonesia's internet penetration ranks eighth in Southeast Asia. It is recorded that internet penetration in the country reached 76.3% as of July 2022. This data shows that the number of internet users in Indonesia reached 212.35 million people out of a population estimated at 278.26 million people.[1] Based on the contribution of internet users per province, the largest are occupied by North Sumatra, West Kalimantan, West Java and South Sulawesi. The largest penetration is in Bengkulu province at 85%, followed by DKI Jakarta,

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[1] Cindy Mutia Annur, 2023. *Penetrasi Internet Indonesia Peringkat Ke-8 di ASEAN, Siapa Teratas?*. https://databoks.katadata.co.id/datapublish/2023/09/06/penetrasi-internet-indonesia-peringkat-ke-8-di-asean-siapa-teratas. Diakses pada 25 Juni 2024.

West Kalimantan, Southeast Sulawesi, Papua and West Nusa Tenggara. With this penetration, it becomes an opportunity as well as a challenge to realize digital transformation in Indonesia.[2] Digital transformation is a process of changing from conventional methods to more digital methods.[3] This process covers various aspects of life, from economics, government, to culture.[4]

Indonesia is a geographically unique country. Not only because of the vast area stretching from Sabang to Merauke, but also because of its diverse geographical contours. Among these opportunities and challenges also include the decentralization of power, which, among other things, is realized in substantive governmental autonomy for the Village. Based on Law Number 6 of 2014 concerning Villages, village authority includes authority in the areas of government administration, development implementation, community development, and community empowerment based on community initiatives, originary rights, and customs. Minister of Home Affairs Regulation Number 2 of 2017 concerning Village Minimum Service Standards states that Village Minimum Service Standards include the provision and dissemination of service information, provision of population and land data and information, provision of certificates, simplification of services, and public complaints. Service administering officials include the village head, village secretary, section head in charge of administrative services, and village officials.

Rural economic development has become a major concern for policy makers, especially in developing countries, including Indonesia. One of the Indonesian Government's development agendas is to develop Indonesia from peripheral and rural areas that have low accessibility, negative migration balance, and low education levels.[5] To implement this agenda, starting in 2015, the Indonesian Government launched the Village Fund program to provide incentives for the establishment of Village-Owned Enterprises (BUM Desa) by granting permission to villages (villages) to use village funds as investment capital for BUM Desa. Villages as part of the government system of the Unitary State of the Republic of Indonesia at the smallest scope should be. Given its position which is directly in the midst of society, the Village is seen as having a fairly large role in providing public services for the community.

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[2] Leski Rizkinaswara, 2019. *Dampak Penggunaan Internet Indonesia Terhadap Sosial Budaya Masyarakat.* https://aptika.kominfo.go.id/2019/08/dampak-penggunaan-internet-indonesia-terhadap-sosial-budaya-masyarakat/.

[3] Ikhbaluddin, 2021. *Pelayanan Publik Berbasis Online di Desa (Studi pada Empat Desa di Kecamatan Jatinangor*). Jurnal Teknologi dan Komunikasi Pemerintahan 3, no. 2, p. 16-30, https://doi.org/10.33701/jtkp.v3i2.2309.

[4] Marsono. 2017. *Membangun Model Pelayanan Publik Desa: Mendekatkan Pelayanan Masyarakat di Tingkat Lokal.* Jurnal Borneo Administrator 13, no. 1, p. 1, https://doi.org/10.24258/jba.v13i1.272.

[5] Lucia Naldi, Pia Nilsson, Hans Westlund and Sofia Wixe, 2015. *What is Smart Rural Development?.* Journal of Rural Studies 40, p. 90-101, https://doi.org/10.1016/j.jrurstud.2015.06.006.

Public services themselves are needed to accelerate the realization of general welfare, in line with the state goals contained in the constitution. There are at least two significances of village services. First, the village as the government closest to the community is the spearhead of public services. Second, villages provide a large number of public services.[6] Based on data from the Central Statistics Agency (2021), the number of villages in Indonesia is 83,843 villages. The number of service providers in villages can double if each village has at least one Village-Owned Enterprise (BUMDes).

Many services provided by villages are introductory or recommendations for further services by other public service providers at regional and central levels.[7] These recommendations are often absolute, meaning that other service providers cannot process further services without an introduction from the village. In implementation, the implementation of public services by villages faces a number of challenges. The results of the Republic of Indonesia Ombudsman's study of several basic public services in villages have identified several factors causing suboptimal village services. These factors include geographical location and village typology, human resource capacity of village officials, Village Fund budgeting and Village Fund Allocation, community participation, as well as guidance and supervision from relevant stakeholders.[8]

Village services are very important, as is the role of village officials in optimizing public services in the village.[9] It is in this context that digital government becomes important to implement. Digital refers to the use of computer and information technology in storing, processing and disseminating data.[10] In this era, digital is not just a lifestyle, but also a solution to overcome challenges faced in various walks of life, especially in villages. the concept of a "digital village" has emerged as a transformative model for rural development. Digital villages integrate digital technologies into everyday life, aiming to enhance governance, economic opportunities, and social services. The urgency of developing digital villages lies in their potential to empower village autonomy—enabling local communities to

[6] Fina Oktaviana, Opi Hanidian, Busthomi Senko Aji and Imam Baihaqi, 2020. *Pelayanan Administrasi Desa Berbasis Online di Desa Paremenon*. ABDIPRAJA (Jurnal Pengabdian kepada Masyarakat) 1, no. 1, p. 49, https://doi.org/10.31002/abdipraja.v1i1.3205.

[7] Alis Warosatul Hasanah dan Wawan Kurniawan, 2023. *Kualitas Pelayanan Publik di Kantor Desa dalam Perspektif Islam*. Jurnal Ekonomi Syariah Indonesia (JESI) 2, no.1, p. 46-54, https://doi.org/10.57171/jesi.v2i1.65.

[8] Ahmad Suedy, ed., *Desa Kontra Urbanisasi* (Jakarta: Ombudsman Republik Indonesia, 2018), https://ombudsman.go.id/produk/lihat/223/SUB_BL_5a25a712a8fc9_file_20181012_100319.pdf.

[9] Maulana Reza Pahlevi et al., 2023. *Pendampingan Optimalisasi Pelayanan Publik Bagi Aparatur Desa dalam Mewujudkan E-Government di Kecamatan Gurah*. Jurnal Integrasi dan Harmoni Inovatif Ilmu-Ilmu Sosial (JIHI3S) 3, no. 12, p. 1338-1345, https://doi.org/10.17977/um063v3i12p1338-1345.

[10] Junjie Li, Guohui Zhan, Xin Dai and Meng Qi, 2022. *Innovation and Optimization Logic of Grassroots Digital Governance in China under Digital Empowerment and Digital Sustainability*. Sustainability 14, no. 24, p. 16470, https://doi.org/10.3390/su142416470.

govern themselves, make informed decisions, and improve their quality of life. Digital villages are not just villages that have internet access, but also villages that utilize technology to improve the quality of life of their residents.[11] Digital villages integrate technology in various aspects of daily life and create an innovative and inclusive ecosystem.[12]

The urgency of developing digital villages is closely tied to the empowerment of village autonomy. Village autonomy refers to the ability of local communities to govern themselves, make decisions independently, and manage their resources efficiently. In many countries, rural areas are granted a degree of self-governance, allowing them to enact local regulations, manage budgets, and develop infrastructure tailored to their unique needs. However, the lack of digital infrastructure and services has often limited these communities' ability to fully exercise this autonomy. By implementing digital technologies, villages can overcome geographical and logistical barriers, enabling them to make more informed decisions, engage in participatory governance, and access a wider range of services.

This article elaborates on the substance of the digital village. For discussion purposes, the article is explored into three parts. The first part describes village autonomy and the impact on public services. The second part describes the prerequisites for realizing a digital village. Meanwhile, the third part concerns policy and legal recommendations for realizing a digital village.

## II. RESEARCH METHODS

This research is doctrinal legal research based on primary legal materials and literature as the main focus. The approaches used in this research include a statutory approach and a conceptual approach. The legislative approach includes content analysis of the 1945 Constitution, the 2014 Village Law, and statutory regulations regarding digital government systems. The conceptual approach includes village autonomy and digital government. The data analysis method used in this research is qualitative analysis, qualitative analysis is a research procedure that will produce analytical descriptive data, namely data obtained from research is compiled, researched and studied then conclusions are drawn which are outlined in this article.

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[11] Miftahul Huda et al., 2024. *Pemanfaatan Literasi Digital Melalui Pengelolaan Website dan Media Sosial Desa Menuju Desa Go Digital*. Jurnal Inovasi Hasil Pengabdian Masyarakat (JIPEMAS) 7, no. 1, p. 92–102, https://doi.org/10.33474/jipemas.v7i1.21030.

[12] Eliyah Acantha Manapa Sampetoding, Rafika Uksi, and Yulita Sirinti Pongtambing, 2024. *Digital Transformation pada Sistem Informasi Akuntansi di Desa*. Jurnal Inovasi Akuntansi (JIA) 2, no. 1, p. 72–77, https://doi.org/10.36733/jia.v2i1.9046.

## III. DISCUSSION

### a. Village Autonomy in Legal Perspective

The birth of Law Number 6 of 2014 concerning Villages can be seen as confirmation of the recognition of village autonomy in accordance with Article 18 of the 1945 Constitution before the amendment or Article 18B after the amendment. In the preamble to Law Number 6 of 2014, it is stated that villages have original rights and traditional rights in regulating and managing the interests of local communities and play a role in realizing the ideals of independence based on the 1945 Constitution. This village autonomy is reflected in the definition of villages as legal community units that have territorial boundaries that have the authority to regulate and manage government affairs, the interests of local communities based on community initiatives, rights of origin, and/or traditional rights that are recognized and respected in the government system of the Republic of Indonesia. (Article 1 number 1 of the Village Law). One of the objectives of village regulation is to improve public services for village residents in order to accelerate the realization of general welfare (Article 4 letter f of the Village Law). Based on the Village Law, village authority includes authority in the fields of government administration, development implementation, community development, and community empowerment based on community initiatives, original rights, and customs.

In accordance with the Village Law, village officials consist of the village secretary, regional implementers and technical implementers. They are tasked with assisting the village head in carrying out his duties and authority, and are responsible to the village head. Appointed village officials must meet the requirements set out by law, and can only resign for three reasons, namely death, personal request, or being dismissed if they are 60 years old, permanently disabled, no longer meet the requirements, or violate village officials' prohibitions. The authority to appoint and dismiss village officials rests with the village head, but after first consulting with the sub-district head on behalf of the regent. Minister of Home Affairs Regulation Number 83 of 2015 concerning Appointment and Dismissal of Village Officials has regulated in quite detail the mechanism for appointing village officials.

The current structure of Indonesian rural society is characterized by a complex network of inter-village collaboration, which is considered a means of accelerating economic development and increasing prosperity by effectively utilizing local resources According to Suresh, contemporary acceptance of the idea of a "developing village" is seen as an embodiment of the basic principles of village governance.[13] However, this has given rise to real disputes involving concerns related to regional pride, isolation, and obstacles hindering the region's transformation into an economically prosperous zone.[14] There is a real change

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[13] Devare Suresh, 2015. *Gandhian Thought of Rural Development*. SSRN Electronic Journal, https://doi.org/10.2139/ssrn.2664530.

[14] Linda Colley and Karren Brown, 2015. *The Politics of Regional Disadvantage: Regional Differences in Public Sector Employment*. Public Administration Quarterly 39, no. 4, p. 664–96.

taking place in this paradigm, where villages, which were previously independent entities, are now increasingly aware of the need for collaboration.[15] Meanwhile, collaboration is related to consensus and at this point, the digital village acquires significance.

Legal frameworks typically delineate the powers and responsibilities of village authorities, which may include village councils, chiefs, or other traditional leaders. These authorities are vested with the power to enact local regulations, manage local resources, and provide public services. For instance, village councils may have the authority to impose local taxes, regulate land use, and manage community facilities like markets and water resources. This autonomy is often enshrined in a country's constitution or specific legislation that recognizes the unique status and needs of rural communities. Understanding village autonomy from a legal perspective involves examining the legal frameworks that define and protect this autonomy, the powers granted to village authorities, and the challenges in its implementation. As rural communities increasingly integrate into the digital world, legal frameworks must adapt to support digital village development, ensuring that villages can fully exercise their autonomy in a manner that promotes sustainable and inclusive growth and becoming digital village.

**Towards a Digital Village**

The use of information technology necessitates equality. However, to achieve equality, there must be a social contract regarding the need for utility. As one of the basic principles of humanism, social contractual utilitarianism is concerned with understanding people in the context of equality, especially equality of their rights, obligations and responsibilities. Consequently, equality must be understood based on societal values. For a society to have the best values, its members must have the best social contract to meet their needs.

Equality is also one of the values promoted by information and communication technology. New technologies can have new impacts on equality. Information and communications technology supports equality of opportunity by facilitating partnerships to foster community participation. Information and communication technology also provides access to the basic needs of a society, to achieve its goals. Information and communication technology can also increase awareness and understanding of the importance of equality as a value.

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[15] Chris Ansell and Alison Gash, 2008. *Collaborative Governance in Theory and Practice.* Journal of Public Administration Research and Theory 18, no. 4, p. 543–71, https://doi.org/10.1093/jopart/mum032.

Social contract theory has been applied to technology[16], including value utilitarianism.[17] Research has addressed the ethics of technology.[18] The social contract and utilitarianism[19] (i) differ in terms of the quality of pleasure; (ii) additive benefits and drawbacks; (iii) consideration of individual happiness; and (iv) distribution of benefits. In participatory technology, society or communities must receive sufficient information to create a consensus on whether the technology should be adopted or rejected.[20]

Social contractual utilitarianism can outline the relationship between a community and its rulers in terms of developing a moral doctrine about happiness from the application of new technology. The relationship between a society and its rulers can be legitimized through legal agreements formed through formal and informal discussions. Social contract utilitarianism consists of four main aspects of agreement.[21] The first aspect is an agreement between community members, namely every agreement that occurs between members of a community. Each member allows their interests and needs to become part of what other members of society need.

The second aspect is agreement regarding positive outcomes. A positive outcome agreement refers to any contract that benefits an individual or community. The agreement may take the form of a physical product or an intangible outcome. The importance of this agreement is that it can be transferred to good goals for members of a community.[22] A good cause may be part of a short-term or long-term agreement. An agreement regarding a positive outcome will include the general or specific conditions of that outcome.[23]

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[16] Richard Herschel and Virginia M. Miori, 2017. *Ethics & Big Data*. Technology in Society 49, p. 31–36, https://doi.org/10.1016/j.techsoc.2017.03.003.

[17] Thomas J. Froehlich, 1991. *Ethical Considerations in Technology Transfer*. Trend Library 40, no. 2, p. 275–302.

[18] Bernd Carsten Stahl, Job Timmermans, and Catherine Flick, 2016. *Ethics of Emerging Information and Communication Technologies*. Science and Public Policy 44, no. 3, p. 369-381, https://doi.org/10.1093/scipol/scw069; Andrea Flores and Carrie James, 2013. *Morality and Ethics Behind the Screen: Young People's Perspectives on Digital Life*. New Media & Society 15, no. 6, p. 834–52, https://doi.org/10.1177/1461444812462842.

[19] Brian Ellis, 2012. *Social Humanism A New Metaphysics*. New York: Routledge.

[20] David Banta, 2009. *What Is Technology Assessment?*. International Journal of Technology Assessment in Health Care 25, no. S1, p. 7–9, https://doi.org/10.1017/S0266462309090333.

[21] Brian Ellis, 2011. *Humanism and Morality*. Sophia 50, no. 1, p. 135–139, https://doi.org/10.1007/s11841-010-0164-x.

[22] Morten Skovdal et al., 2013. *Social Acceptability and Perceived Impact of a Community-Led Cash Transfer Programme in Zimbabwe*. BMC Public Health 13, no. 1, p. 342, https://doi.org/10.1186/1471-2458-13-342.

[23] Harry M. Flechtner, 2018. *UN Convention on Contracts for the International Sale of Goods (CISG)*. Rabels Zeitschrift Für Ausländisches Und Internationales Privatrecht 78, no. 4, p. 883, https://doi.org/10.1628/003372514X683693.

The third aspect is an agreement on something that is needed by society, which can refer to a social contract regarding an important item that is an essential element for members of a society. For example, important elements of community may refer to sharing, learning, mutual support or mission. The use of these elements also supports the growth of important elements of society while supporting the designed meeting format.

The final aspect of agreement in social contract utilitarianism is an agreement to improve society, which can be interpreted as an effort or attempt to make an agreement between members of a community to provide a better life. The agreement must be comfortable and make community members feel comfortable and safe in their environment. The agreement will extend the life of the community and provide hope for the future.

For agreement in the field of information and communication technology, all stakeholders must agree that good access to information and communication technology is now a human right because in the information era, information is the main social benefit. Big technologies that improve access to key public properties must benefit all user profiles without ignoring or selectively burdening certain levels of users.

Agreements, interests, and needs, as well as other aspects of social contract utilitarianism, are discovered and related to the adoption and implementation of technology in the digital village. In terms of agreement, the understanding is similar to previous research, namely that it can be the basis for further application of technology. This also supports research results which show at the international level that the adoption of new technology must receive approval. Technology agreements at the village and population levels are based on community interests.

Furthermore digital villages are characterized by the use of information and communication technologies (ICT) to improve various aspects of rural life.[24] Key components include reliable internet access, digital infrastructure such as computer centers, and platforms for e-governance and e-commerce. These elements collectively create an ecosystem where information flows freely, services are accessible, and economic activities can thrive.

Digital villages can significantly enhance local governance by providing tools for transparency, accountability, and citizen participation. E-governance platforms enable villagers to access government services, lodge complaints, and participate in

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[24] Visvizi Anna and Miltiadis D. Lytras, 2018. *It's Not a Fad: Smart Cities and Smart Villages Research in European and Global Contexts*. Sustainability 10, no. 8, p. 2727.

decision-making processes.[25] For example, online portals can facilitate the dissemination of local government decisions, financial reports, and public announcements, ensuring transparency and fostering trust. Digital platforms in villages will greatly enhance access to information and essential services. This includes educational resources, telemedicine services, and agricultural information, empowering villagers with knowledge and skills. In rural Kenya, digital platforms like M-Pesa have revolutionized financial inclusion by providing mobile banking services, enabling villagers to save, borrow, and transfer money without relying on traditional banks.[26]

Digital villages stimulate local economies by creating new opportunities for entrepreneurship and market access. E-commerce platforms allow local producers to reach wider markets, increasing their income and fostering economic growth. For example, the "A2I" (Access to Information) program helps small businesses sell their products online, connecting them with national and international buyers.[27] Additionally, digital skills training programs equip villagers with the knowledge needed to participate in the digital economy, from freelancing to online businesses. Digital communication tools, such as social media and community websites, can enhance social cohesion by keeping villagers connected and informed.

These platforms can be used for community-building activities, such as organizing local events, sharing news, and fostering dialogue on local issues. This increased engagement can lead to a more united and resilient community, capable of collectively addressing challenges and seizing opportunities.

## b. Digital Village Prerequisites

Digital village development requires changes in the mindset of village communities, infrastructure support, and intervention from central and regional governments. The successful establishment of a digital village requires a set of foundational prerequisites that create an enabling environment for digital transformation. These prerequisites are critical for ensuring that digital initiatives are sustainable, inclusive, and capable of delivering tangible benefits to rural communities. The key prerequisites for a digital village include digital infrastructure, digital literacy, governance frameworks, and community engagement. All stakeholders at the village

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[25] Rosyadi Ihyauddin et al., 2024. *Transforming Village Governance: The Impact of Village Development Boards on Community Participation, Indonesian Case Study*. International Journal of Research in Engineering, Science and Management 7.5, p. 187-194.

[26] Njuguna Ndung'u, 2018. *The M-Pesa Technological Revolution for Financial Services in Kenya: A Platform for Financial Inclusion*. Handbook of Blockchain, Digital Finance, and Inclusion, Volume 1, p. 37-56.

[27] Ruhun Wasata, 2019. *Analyzing the Effectiveness of Access to Information (a2i) Program in Promoting Women Emporwent in Selected Areas of Bangladesh: A Case Study of Shimulia Union Parishad and Muksudpur Union Parishad, Dhaka District*. East West Journal of Business and Social Studies 8, p. 1-22.

level need to have a competitive advantage in utilizing digitalization, both for public services and improving sales skills, business strategies, ecosystems and work culture practices. For the digital village concept to work, citizen participation is needed. A smart village implements efficiency in its city governance thereby preventing waste in various sectors thereby creating a better quality of life.

In building a Digital Village, first a village must have Digital Village Readiness. Digital Village readiness analysis is an analysis carried out to assess the current condition of the Village in order to obtain an overview of regional capacity and capability in implementing development programs. The elements of Smart Village Readiness are Nature, Structure, Infrastructure, Superstructure and Culture. A good Digital Village target must meet the following criteria: (i) Specific, namely the definition of performance indicators must be clear and not have double meaning so that it is easy to understand and use; (ii) Measurable, that is, the indicators used can be measured using a certain agreed assessment scale, which can be in the form of measuring quantity, quality or price; (iii) Appropriate, namely the indicators chosen must be in accordance with efforts to improve service/performance; (iv) Relevant, namely the indicators are logically related to the desired Digital Village vision as well as the duties and functions of each responsible institution and (v) Continuously improved, namely there is an increase in performance along with the implementation of the Digital Village programs; and (vi) Cost-effective, namely the benefits of the desired Digital Village performance targets are comparable or can be achieved with the costs that must be allocated.

Henceforth, in the Village Development Planning Conference, decisions must be made regarding adjustments to the Smart City development road map at the Regency level and stages which at least include: (i) First stage, strengthening network infrastructure and data centers; (ii) Second stage, strengthening information system infrastructure; (iii) Third stage, data integration and integrated application development; (iv) The fourth stage, data warehouse, namely a data warehouse as a system tasked with archiving and analyzing historical data to support information needs for village government administration; and (v) Fifth stage; implementation of policies towards a Digital Village.

From the agreed planning documents, Village Regulations are then established which contain a road map for implementing the Digital Village. The preparation of these regulations must be preceded by an Academic Paper and the initial draft must be disseminated widely to obtain input or opinions from all citizens. The substance of Village Regulations at least includes: (i) Digital Village Infrastructure; (ii) Digital Village Information; (iii) Information Security Guarantee; (iv) Quality Guarantee of Digital Village Services; and (v) Nature and Concept of Digital Village Services. Governments play a crucial role in fostering digital village development through supportive policies and regulations which elaborated through these:

1) Digital Village Infrastructure
   This involves establishing the physical and technical infrastructure necessary for digital connectivity and services, such as internet networks, data centers, and digital devices.
2) Digital Village Information
   This pertains to the collection, management, and dissemination of data relevant to the village, ensuring that information is accurate, up-to-date, and accessible to all residents.
3) Information Security Guarantee
   Regulations must ensure the protection of data privacy and security, safeguarding villagers' personal information and preventing cyber threats.
4) Quality Guarantee of Digital Village Services
   Establishing standards and protocols for the delivery of digital services to ensure they are reliable, efficient, and user-friendly.
5) Nature and Concept of Digital Village Services
   Defining the scope and nature of services provided, including e-governance, e-commerce, education, and healthcare, tailored to the specific needs and contexts of each village.

Digital Village infrastructure must meet the Service Level Agreement (SLA) on aspects of network management, including network availability, backup system (redundancy system), disaster recovery system, and network security devices. ), and guaranteeing network reliability. The information presented by various intelligent city applications must meet privacy, integrity, authentication, availability, non-repudiation, and access control requirements. Controls). In this regard, efforts need to be made to guarantee information security through security procedures; network security (for example, using a firewall, intrusion detection system, anti-virus, or virtual private network); securing access (for example, using a password); authentication of data transmission (for example: using encryption, certification of authority, and public critical infrastructure); document security; and room security. Digital Village services must be of high quality, including meeting the parameters of availability, coverage, processing time; service time, response time, completeness, accuracy and currency, level of convenience and comfort, ease of procedures and procedures, choice of access media (multi-channel); uniformity; choice of payment system; and cost.

By establishing and implementing step-by-step the prerequisites for a Digital Village, a village government responsive to information and communication technology developments will be created. Furthermore, villages can improve governance, access to services, and economic opportunities by leveraging digital technologies while strengthening social cohesion. In this development, at an ideal level, it is hoped that intelligent sources will come from public services, village government, and public involvement by implementing policies for intelligent regional development involving stakeholders.

Successful digital initiatives require buy-in from the community, as well as active participation in planning and implementation. Engaging the community involves conducting consultations, gathering feedback, and ensuring that digital solutions are tailored to meet villagers' specific needs and preferences. Community leaders, local organizations, and other stakeholders should be involved in the process to foster a sense of ownership and responsibility. This inclusive approach helps build trust, ensures that digital solutions are relevant and valuable, and promotes sustained use of digital services. The prerequisites for a digital village encompass technological infrastructure and literacy, supportive governance frameworks, and active community engagement. Addressing these prerequisites lays the foundation for a thriving digital town, capable of improving governance, boosting economic opportunities, and enhancing the overall quality of life for rural residents.

## IV. CONCLUSION

Villages are seen as having a significant role in providing public services for the community. Along with developing information and communication technology, a Digital Village must be created. Social contractual utilitarianism is the philosophical basis for digital transformation in village government, and to realize a Digital Village, it must meet the following requirements. First, participatory, that is, it is prepared with the agreement of the residents and is in line with the district's development plans. Second, there is a need for a legal basis in the form of a Village Regulation on Digital Villages, which follows the village development plan and describes the character the Village wants to develop. Third, have a road map in the form of stages for creating a Digital Village.

## V. ACKNOWLEDGMENTS

# REFERENCES

Ansell, Chris & Alison Gash. 2008. *Collaborative Governance in Theory and Practice*. Journal of Public Administration Research and Theory 18, no. 4.

Banta, David. 2009. *What is Tecnology Assessment?*. International Journal of Technology Assessment in Health Care 25, no.1.

Colley, Linda & Kerry Brown. 2015. *The Politics of Regional Disadvantage: Regional Differences in Public Sector Employment*. Public Administration Quarterly 39, no. 4.

Ellis, Brian. 2011. *Humanism and Morality*. Sophia 50, no. 1.

_____. 2012. *Social Humanism*. New York: Routledge.

Flechtner, Harry M. 2018. *UN Convention on Contracts for The International Sale of Goods (CISG)*. Rabels Zeitschrift Für Ausländisches Und Internationales Privatrecht 78, no. 4.

Flores, Andrea & C. James. 2013. *Morality and Ethics Behind The Screen: Young People's Perspectives on Digital Life*. New Media & Society 15, no.6.

Froehlich, Thomas J. 1991. *Ethical Considerations in Technology Transfer*. Trend Library 40, no. 2.

Hasanah, Alis Warosatul & Wawan Kurniawan. 2023. *Kualitas Pelayanan Publik di Kantor Desa dalam Perspektif Islam*. Jurnal Ekonomi Syariah Indonesia 2, no. 1.

Herschel, Richard & Virginia M. Miori. 2017. *Ethics & Big Data*. Technology in Society 49.

https://aptika.kominfo.go.id/2019/08/Dampak Penggunaan Internet Indonesia Terhadap Sosial Budaya Masyarakat – Ditjen Aptika (kominfo.go.id)

https://databoks.katadata.co.id/datapublish/2023/09/06/penetrasi-internet-indonesia-peringkat-ke-8-di-asean-siapa-teratas

Huda, Miftahul, Irfan Maulana, Maslikhatul Uriva C, Laelatul Hidayati. 2024. *Pemanfaatan Literasi Digital Melalui Pengelolaan Website dan Media Sosial Desa Menuju Desa Go Digital*. Jurnal Inovasi Hasil Pengabdian Masyarakat (JIPEMAS) 7, no.1.

Ikhbaluddin. 2021. *Pelayanan Publik Berbasis Online di Desa (Studi pada Empat Desa di Kecamatan Jatinangor*. Jurnal Teknologi dan Komunikasi Pemerintahan 3, no. 2.

Li, Junjie, Guohui Zhan, Xin Dai, Meng Qi & Bangfan Liu. 2022. *Innovation and Optimization Logic of Grassroots Digital Governance in China under Digital Empowerment and Digital Sustainability.* Sustainability 14, no.24.

Marsono. 2017. *Membangun Model Pelayanan Publik Desa: Mendekatkan Pelayanan Masyarakat di Tingkat Lokal.* Jurnal Borneo Administrator 13, no. 1.

Naldi, Lucia, Pia Nilsson, Hans Westlund & Sofia Wixe. 2015. *What is Smart Rural Development* 40.

Ndung'u, Njuguna. 2018. *The M-Pesa Technological Revolution for Financial Services in Kenya: A Platform for Financial Inclusion.* Handbook of Blockchain, Digital Finance, and Inclusion, Volume 1.

Oktaviana, Fina, Opi Hanidian, Busthomi Senko Aji & Imam Baihaqi. 2020. *Pelayanan Administrasi Desa Berbasis Online di Desa Paramenon*. ABDIPRAJA (Jurnal Pengabdian Kepada Masyarakat) 1, no. 1.

Pahlevi, Maulana Reza, Maulana Achmad Maghfur Ichsan, Mirna Fajar Rahmawati, Hafizha Salma Sabila & Sri Untari. 2023. *Pendampingan Optimalisasi Pelayanan Publik Bagi Aparatur Desa dalam Mewujudkan E-Government di Kecamatan Gurah*. Jurnal Integrasi dan Harmoni Inovatif Ilmu-Ilmu Sosial 3, no. 12.

Prager, Katrin. 2010. *Local and Regional Partnerships in Natural Resource Management: The Challenge of Bridging Institutional Levels.* Environmental Management 46, no. 5.

Rosyadi, Ihyauddin, et al. 2024. *Transforming Village Governance: The Impact of Village Development Boards on Community Participation, Indonesian Case Study*. International Journal of Research in Engineering, Science and Management 7.5.

Sampetoding, Eliyah Acantha Manapa, Rafika Uksi & Yulita Sirinti Pongtambing. 2024. *Digital Transformation pada Sistem Informasi Akuntansi di Desa*. Jurnal Inovasi Akuntansi (JIA) 2, no. 1.

Skovdal, Morten, Phyllis Mushati, Laura Robertson, Shungu Munyati, Lorraine Sherr, Constance Nyamukapa & Simon Gregson. 2013. *Social Acceptability and Perceived Impact of a Community-Led Cash Transfer Programme in Zimbabwe*. BMC Public Health 13, no.1.

Stahl, Bernd Carsten, Job Timmermans, Catherine Flick. 2016. *Ethics of Emerging Information and Communication Technologies: On The Implementation of Responsible Research and Innovation*. Science and Public Policy 44, no. 3.

Suaedy, Ahmad, et al. 2018. *Desa Kontra Urbanisasi*. Jakarta: Ombudsman Republik Indonesia.

Suresh, Devare. 2015. *Gandhian Thought of Rural Development*. SSRN Electronic Journal.

Visvizi, Anna & Miltiadis D. Lytras. 2018. *It's Not a Fad: Smart Cities and Smart Villages Research in European and Global Contexts*. Sustainability 10, no. 8.

Wasata, Ruhun. 2019. *Analyzing the Effectiveness of Access to Information (a2i) Program in Promoting Women Empowerment in Selected Areas of Bangladesh: A Case Study of Shimulia Union Parishad and Muksudpur Union Parishad, Dhaka District*. East West Journal of Business and Social Studies 8.