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SI Desa (Sistem Informasi Desa)

Initiation of an Integrated Village Economic Information System and Data Management by the Provincial Government of East Java

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Abstract: Implementing regional autonomy gives local governments the authority to provide freedom in regulating and managing their area. Rural development is an essential part of supporting the success of regional development. However, problems were found in the information system and management of village economic data, which resulted in slow village government work processes in collecting information system data and the difficulty for the community to obtain information about the village economy. This study aims to analyze the East Java Provincial Government in initiating the SI Desa Service as a form of providing information system services and computer-based village data management and an integrated website that is easy to access for users. This qualitative research uses an analytical tool as a business model canvas with secondary data because it can develop SI Desa Services through its nine components. The research results by the Provincial Government of East Java through the Community and Village Empowerment Office, which collaborated through a memorandum of understanding with other stakeholders involved in initiating an ideal information system for village economic data management in the SI Desa Service. This integrated service will become a village economic information system and data management that is transparent, accountable, and right on target and can be monitored for its usefulness. The village government can provide excellent service so that all villages integrated with this service can become more resilient and self-sufficient.

Keywords: business model canvas; village data management; village information system; regional autonomy.

1. Introduction

In the era of regional autonomy, local governments are free to regulate and manage their respective regions (Kristiansen et al., 2009). This is also implemented by the East Java Provincial Government, which implements regional autonomy in its regional management. One of the concerns of the East Java Provincial Government is village development because the village plays an important part in supporting the success of regional development, which has a direct relationship with the community, especially in public services (Adinarayana et al., 2015; Sosiawan, 2008a).

In order to improve the quality and provision of public services, the East Java Provincial Government, through the Community and Village Empowerment Service in collaboration with other stakeholders, initiated services that are integrated into the information system and village economic data management in East Java Province based on computers and websites (Wargadinata et al., 2022). This is in accordance with the mandate of Law No. 25 of 2009 concerning Public Services, where local governments are obliged to provide effective and efficient communication media to support government performance that is transparent, accountable and on target, and its usefulness can be monitored by the public (Manoharan & Ingrams, 2018; Paquette et al., 2010). This is in line with Indrajit (2022) and Sosiawan et al. (2004) which stated that the process of utilizing technology in communication media and the quality of public services could help run a more efficient government system.

Conceptually, the implementation of a digital-based government system can be carried out using various scientific approaches such as technological approaches, communication and information, management, politics and government to social aspects. However, technological factors are the basis for implementing a digital-based government system (Nikiforova, 2021). In fact, the use of technology in the government system in Indonesia has been started for two decades through Presidential Instruction No. 6 of 2001 concerning Information and Communication Technology. However, the weak utilization of knowledge and application, as well as the lack of technological facilities, means that the implementation of a digital-based government system is still not optimal (Akbar et al., 2019; Anggreni et al., 2020).

Starting from this issue, it encourages the exploration of information systems and village data management through integrated SI Desa services as a process of increasing transparency, accountability and targeting of public services managed by the local government. What needs to be prepared is the availability of online and offline infrastructure that supports the success and integration of mature stakeholders in providing this service (Mellouli et al., 2020). Thus, this study aims to compile and develop an ideal model in SI Desa services by using the business model canvas as an integrated service initiation in information systems and village economic data management in East Java Province. According to Athia et al. (2018) and Braza (2020), sing the business model canvas will divide important things into several clear focuses, making it easier for the East Java Provincial Government to develop SI Desa services comprehensively. In its simple framework, the business model canvas will describe ideas and plans for the realization of the SI Desa services concisely and quickly but still comprehensively in making decisions to create and develop this service (Tim PPM Manajemen, 2014).

The renewal of this research is to examine and analyze the preparation and development of integrated services related to information systems and village data management initiated by the Office of Community and Village Empowerment, East Java Provincial Government. This service will be a concrete, solutive step in providing

information system services and village data management based on computers and websites in a transparent, accountable and targeted manner, as well as utilizing its benefits to make all villages in East Java Province resilient and independent. Conceptually, this research starts with an initial survey related to problems in information systems and village economic data management so that the multiplier effect will have an impact on the slow process of village government work in information system data collection and the difficulty for the community to obtain information about the village economy (Mislawaty et al., 2022). Therefore, it is hoped that this study can present a service system that can be accessed by various parties ranging from levels of society, village government, and various other stakeholders. This study can also be used as a new reference for improving system-based government services initiated based on the business model canvas theory. Apart from that, it is also hoped that the SI Desa service will become one of the government system facilities that can further increase transparency, accountability and accuracy of targets for public services managed by the regional government.

2. Methods

This study used qualitative research in which secondary data was obtained using literature review techniques and an analytical tool like a business model canvas. The selection of literature or literature review techniques is carried out by adopting various reports and publications issued by other agencies in creating village integration services in their respective regions. Meanwhile, the analysis tool in the form of a business model canvas was chosen because it is a strategic tool used to design, describe and identify the key elements of a business model. This tool helps entrepreneurs and management teams comprehensively understand and plan their business models. The business model canvas was developed by Alexander Osterwalder and Yves Pigneur in 2010 and has become popular among entrepreneurs, startups and large companies.

The business model canvas consists of nine key elements that make up the overall business model, organized as a canvas (large drawing paper) to visualize the business model. The following is a brief explanation of each element of the business model canvas: (1) customer segments, explaining who the target market or customer groups are to be served by the compiled business; (2) the value proposition provides a brief description of the unique product or service being offered and why the product or service is valuable to customers; (3) distribution channels explain how to deliver products or services to customers through available channels; (4) relationship with customers describes the type of interaction expected with customer segmentation; (5) sources of income, describing where the business will generate revenue; (6) key resources, describing key assets or resources needed to run the business; (7) key activities describe the core activities performed by the business to create, deliver, and market the products or services offered; (8) key partners, describes strategic partnerships that help the business in running operations and achieving business goals; (9) cost structure, describes a list of the most relevant and significant costs associated with business operations (Direktorat Pembinaan dan Pengembangan Kewirausahaan/Simpul Tumbuh, 2021; Universitas Bina Darma, 2021).

By filling out the business model canvas, an entrepreneur or management team can understand how all business model elements are connected and interact. The business model canvas helps identify opportunities and potential risks in business and helps formulate strategies to achieve sustainable business success. Furthermore, the business model canvas has several advantages that make it an invaluable tool for entrepreneurs and companies: (1) clear visualization: The

business model canvas allows entrepreneurs to quickly depict their entire business model on one canvas; (2) focusing on the essence helps the business team focus on the most important things that influence the business model being prepared; (3) flexibility: the business model canvas can be used by various types of businesses, including startups, small companies, and large companies; (4) team collaboration: the business model canvas encourages collaboration between management team members and other stakeholders through discussion of each element to create a clear vision and mission; (5) Iterative approach: the business model canvas can be updated and modified easily as the business develops or the market changes (Hermawan & Pravitasari, 2013).

The business model canvas is a simple yet highly effective tool in helping entrepreneurs and companies design, optimize and innovate their business models. It is hoped that the selection of this study approach will be able to explain, assess and visualize as well as form an ideal model to initiate service integration of information systems and management of village economic data in East Java Province in a rational, comprehensive and optimal manner. The use of the business model canvas will logically describe how an agency can create, deliver and capture value with the help of the canvas, which is divided into nine main components on the right side (showing creativity) and the left side (showing logic) (Kementerian Komunikasi dan Informasi, 2020; Osterwalder & Pigneur, 2010; Tjitradi, 2015).

The conceptual framework shows that the East Java Government, through the Community and Village Empowerment Service, initiated an integrated information

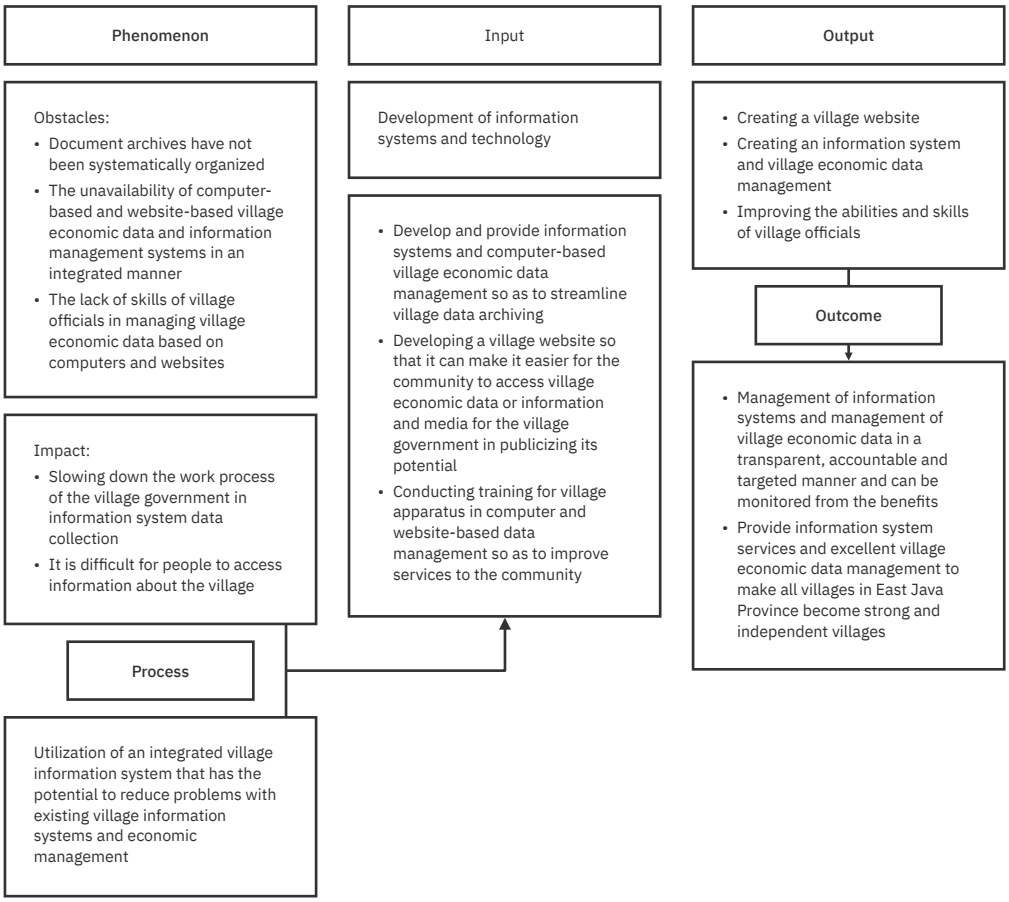

Figure 1. Research Conceptual Framework

Source: Apriyansyah et al. (2018) and Rozi et al. (2017), modified

system and village economic data management service in East Java Province based on the problems and impacts that could be generated (see Figure 1). So, Village SI is a form of utilizing an integrated village information system by taking advantage of information systems and technology developments. If we look at the implementation mechanism, the Community and Village Empowerment Service of the East Java Provincial Government will collaborate through a memorandum of understanding with other stakeholders to make this service successful. This is in line with Law No. 6 of 2014 concerning Villages, East Java Governor Regulation No. 73 of 2017 concerning guidelines for implementing the capacity of Village Government Apparatuses of East Java Province and East Java Governor Regulation No. 8 of 2018 concerning guidelines for managing information and documentation services within the East Java Provincial Government, as well as other derivative regulations.

3. Results and Discussion

3.1. E-Government Overview of Local Government

Currently, many local government agencies are starting to take initiatives in developing public services based on technology networks in the form of websites. Through data from the Ministry of Communication and Information collected from various sources, a general overview of local governments developing e-Government with the following details:

Table 1. Distribution of Number and Status of Local Government Websites

Status	Wahid (2004)		Sosiawan (2008a)		Nurdin et al. (2012)		Yunita and Aprianto (2018)	
	Number of websites	Percentage	Number of websites	Percentage	Number of websites	Percentage	Number of websites	Percentage
Accessible	270	77%	234	71%	309	73%	463	85%
Inaccessible	35	10%	43	13%	59	14%	62	11%
No website	45	13%	53	16%	55	13%	16	3%
Total website	350	100%	330	100%	424	100%	543	100%
TOTAL	**438**		**472**		**486**		**528**	

Source: Nurdin et al. (2012), Sosiawan (2008a), Wahid (2004), and Yunita and Aprianto (2018).

To ensure the continuity of the management and processing system of information systems and management of village economic data as an effort to improve transparent, accountable and targeted public services and their benefits can be exploited. The development of the SI Desa service is integrated with the E-Government architectural framework, with four layers, namely: (1) accessibility of the public in utilizing public service websites (telecommunication networks, internet networks and other communication media); (2) integrating the government's public service portal so that information system management and data management can be carried out using technology; (3) the information management organization must be fully responsible for managing, providing, processing the required electronic information and documents; (4) availability of basic infrastructure and applications in the form of hardware and software to support the performance of information system management and village economic data management safely and reliably (Sosiawan, 2008b).

3.2. Opportunities and Obstacles to Initiation of SI Desa Service

The initial planning of the initiation of this service is identifying opportunities and problems that will be faced to create an ideal modelling of information systems and

data management of the village economy. In order to facilitate the achievement of the objectives of this service, it is hoped that independence will be created in managing village policies by the local village government supported by the use of information and communication technology (Irawan, 2017). This is in accordance with the provisions in the Regulation of the Minister of Villages, Development of Disadvantaged Regions, and Transmigration Number 5 of 2015, which confirms that the village development process is expected to be able to achieve the desired objectives, namely: (1) fulfilment of basic needs; (2) construction of village facilities and infrastructure; (3) development of local economic potential; and (4) sustainable use of resources.

In the future implementation, it is assessed that various opportunities will emerge from the SI Desa service initiation process. This opportunity was because, at first, this initiative arose due to the general public's unrest, and obtaining information on data related to the village government was difficult. Meanwhile, on the other hand, the village government also faces problems regarding the difficulty of collecting data to develop an information system. This condition causes incomplete and unclear information to be provided to the community, which causes a slowdown in the work of the village government, which will also hinder the process of making village policies. Seeing this phenomenon, potential opportunities arise to initiate digital-based integrated information and data management system services so that they can assist village governments in improving their performance and make it easier for the community to obtain information and performance data and make it easier for the community to obtain information.

Comprehensively, the initiation of this village information and management system service is a form of implementation of e-government which has the following benefits (Cheisviyanny et al., 2018), namely: (1) improving the quality of local government services to the stakeholders involved, such as the community and business sector; (2) increasing transparency, accountability and accuracy of targets in local government administration to create good governance; (3) reducing the significant costs incurred by the government in managing information systems and data management if done traditionally; (4) empowering the community and other parties as local government partners to create participatory public policies; (5) creating a local government work environment that is in line with global changes and trends, especially in the use of information and communication technology. Achieving these goals is expected by local governments to provide better services, increase efficiency, and involve the community in the public decision-making process.

3.3. General Overview of E-Government in SI Desa

According to Kementerian Komunikasi dan Informasi (2003), e-government is one of the government's strategies for managing information systems and data in a transparent, accountable and targeted manner. This allows the public to easily access information, data and services provided by local governments on a digital basis. This statement is supported by research by Hartono et al. (2010) and Polii et al. (2017), which explains that e-government utilizes communication and information technology as a tool to provide convenience in communication and transactions for communities, organizations and other government institutions (Manoby et al., 2021). The main objective is for e-government to operate effectively, efficiently and transparently. In its development, e-government must pass through four systematic stages. This ensures that the development and implementation of

information systems and data management in Indonesia can be well organized. Some of these stages include:

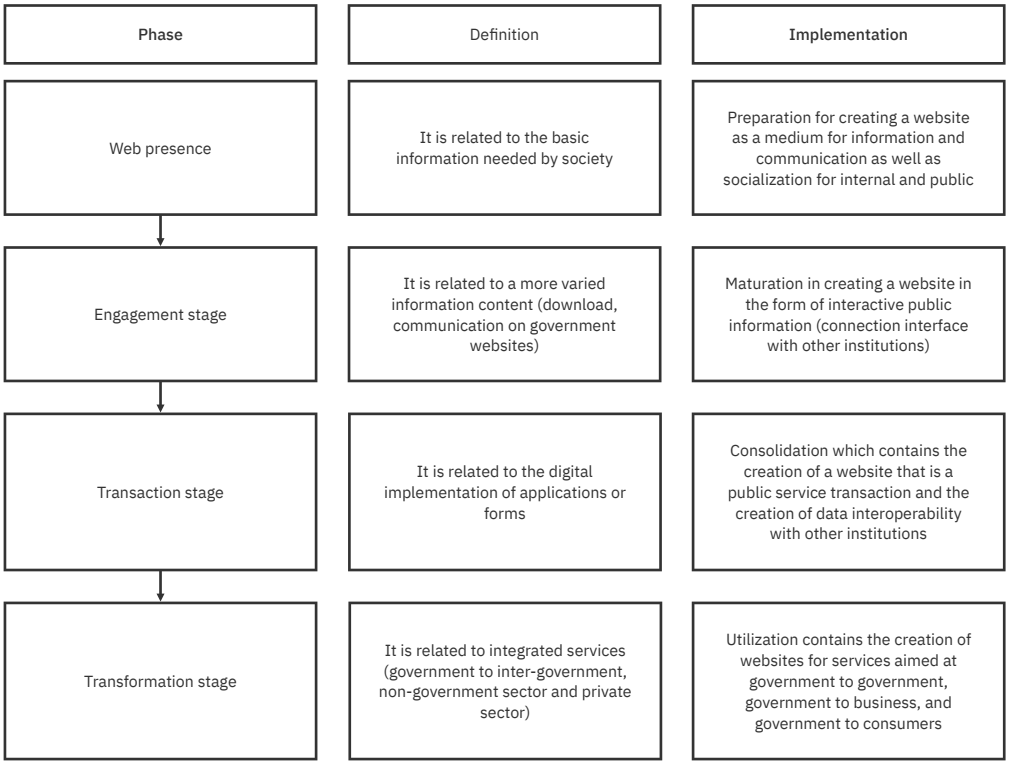

Figure 2. Stages of Development of the E-Government Model in SI Desa

Source: Sosiawan (2008b), modified

According to Sosiawan (2008a), the development of e-government models needs to be adapted to user needs and must be easy to use so that the benefits can be felt realistically. Conceptually, e-government provides government services through electronic technology, such as the Internet, cellular telephone networks, computers and other multimedia. This concept is in accordance with RI Presidential Instruction No. 3 of 2003 concerning National Policy and Strategy for e-government Development and the Decree of the Minister of Communication and Information No. 57/Kep/M.Kominfo/12/2003 concerning Guidelines for Preparing a Master Plan for e-government Development. Looking at the management and responsibility for government services such as SI Desa, this requires a systematic organizational structure (see Table 2), unlike traditional website management, which only requires one webmaster (Kementerian Komunikasi dan Informasi, 2003).

Table 2. Organizational Structure of Digital-Based Village Information System Management

Organization Structure	Responsibility
Protector	Governor of East Java
Responsible for the website	The highest echelon in the structural organization of the East Java Provincial Government
Site manager	Echelon one level below the highest echelon in the structural organization of the East Java Provincial Government
Management team	A number of East Java Provincial Government employees are able to manage because they have competency standards in the field of information technology
Assistance team	Echelon one level below the highest echelon in the structural organization of the East Java Provincial Government in representing official units in the region

Source: *Kementerian Komunikasi dan Informasi (2003)*

Conceptually, village development governance includes all activities carried out by the village government by involving village consultative bodies, village institutions, and the community in a participatory manner. The purpose of this governance is to maximize the utilization and allocation of village resources so that sustainable village development, including improving the welfare and quality of life of village communities and developing village potential, can be achieved (Pristiyanto, 2015; Sujono, 2017). The village development process is carried out through three main phases: (1) village development planning is carried out by summarizing the results of the agreement reached in village meetings. The results of this agreement are then detailed in the village's medium-term development plan and village government work plan; (2) implementation of village development focuses on utilizing available village resources. The village government is responsible for implementing village development programs and activities by utilizing existing resources; (3) village development supervision involves the village community's active participation. In this case, information systems and management of village economic data play an important role in ensuring effective oversight of village development. Village communities are also involved in monitoring and evaluating the implementation of village development programs using relevant data and information. According to Lisnawati and Lestari (2019), the development of villages and rural areas is carried out in long and systematic stages. It also involves several stakeholders and components, starting from the planning, implementation and monitoring stages (see Figure 2).

An integrated service initiation initiated by the Community and Village Empowerment Office, East Java Provincial Government, through the development of information systems and management of village economic data based on appropriate technology in accordance with Law No. 4 of 2014 concerning Villages so

Table 3. Overview of Integrated Services in the SI Desa

General Description	Description
Forms	Initiation of integrated services through the development of information systems and village economic data management so that management is expected to be more transparent, accountable and targeted to make villages more resilient and self-sufficient.
Parties involved	• East Java Province Regional Development Planning Agency • Community and Village Empowerment Service, East Java Provincial Government • Regency or City Government in East Java Province • Neighborhood head, village head and sub-district head
Region	5,674 villages in 29 regencies and nine cities in East Java Province will be connected through integrated information system services and village economic data management
Challenges	• Insufficient support from the Office of Communication and Information in providing internet networks that can reach rural areas • Insufficient support from related regional governments to encourage the expansion of village management and information system utilization
Service Initiation Process	• Build commitment and agreement between the Heads of the neighborhood, Village Heads and Heads of Sub-District Heads as well as other Regional Apparatus Organizations in the form of memorandums of understanding related to their role in the information system and management of village economic data • Strengthening institutions by issuing East Java Governor Regulations as derivative regulations from Law No. 4 of 2014 concerning Villages • Carrying out training, guidance and assistance in utilizing the internet network so that regional officials can operate the website
Impact of Service Initiation	• Achieve conformity of information and data between villages and regions • Mapped an integrated village economic information and data management system • Establishment of orderly administration for the community in accordance with population data • Creation of economic opportunities to market superior village products • Achieve transparency, accountability and targeted public information

Source: KOMPAK (2018a).

that management can be carried out in a transparent, accountable, and right on target and its benefits can be wider to achieve a strong and independent village (see Table 3).

The initiation scheme for integrated information system services and village economic data management is well prepared by the East Java Provincial Government so that in its implementation, there will be availability of integrated village information and data (see Figure 3).

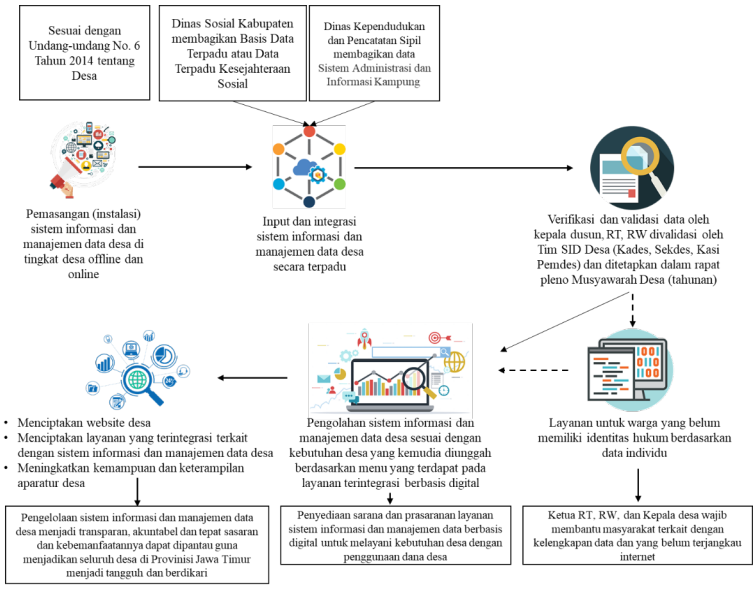

Figure 3. Integrated Service Framework of SI Desa

Source: KOMPAK (2018a).

3.4. The Role of Involved Stakeholders

The success of initiating information system services and village economic data management will be determined by the seriousness of each stakeholder involved in carrying out their roles and responsibilities as best as possible. This is important so there are no overlapping interests and can collaborate optimally. In practice, the stakeholders involved are divided into two, namely, the steering committee or the technical committee (see Figure 4).

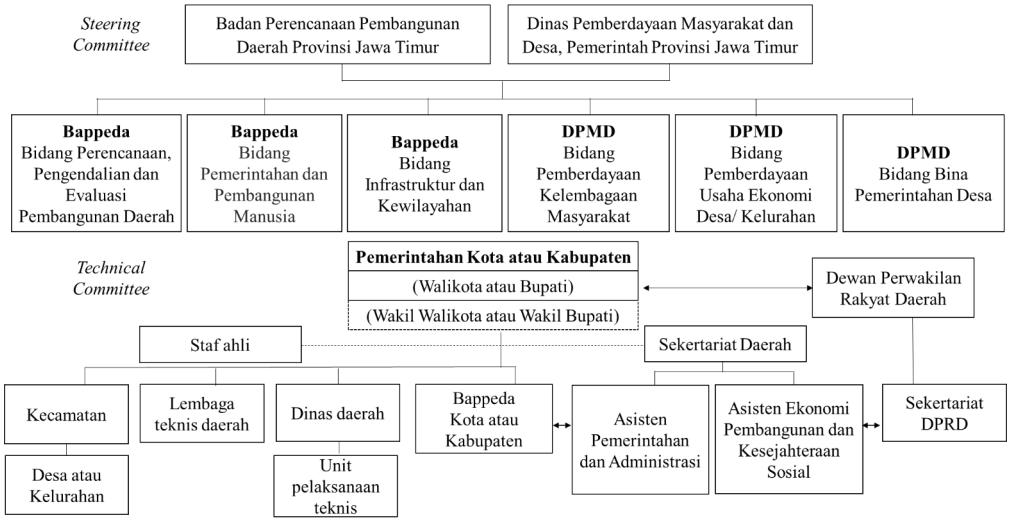

Figure 4. Stakeholders Involved in SI Desa Services

Source: Supriyati and Bahri (2020).

3.5. Management Development of SI Desa

The importance of managing information systems and village economic data in a transparent, accountable, targeted and supervised manner makes the SI Desa Service the right step. In order to maximize this service in the management of computer and website-based information systems and village economic data management, it is important to conduct an in-depth study and analysis. One approach that can be used is to use the business canvas model. With a deeper understanding of the business canvas model, the development and management of SI Desa Services can be optimized according to the needs and expected benefits (Tim PPM Manajemen, 2014).

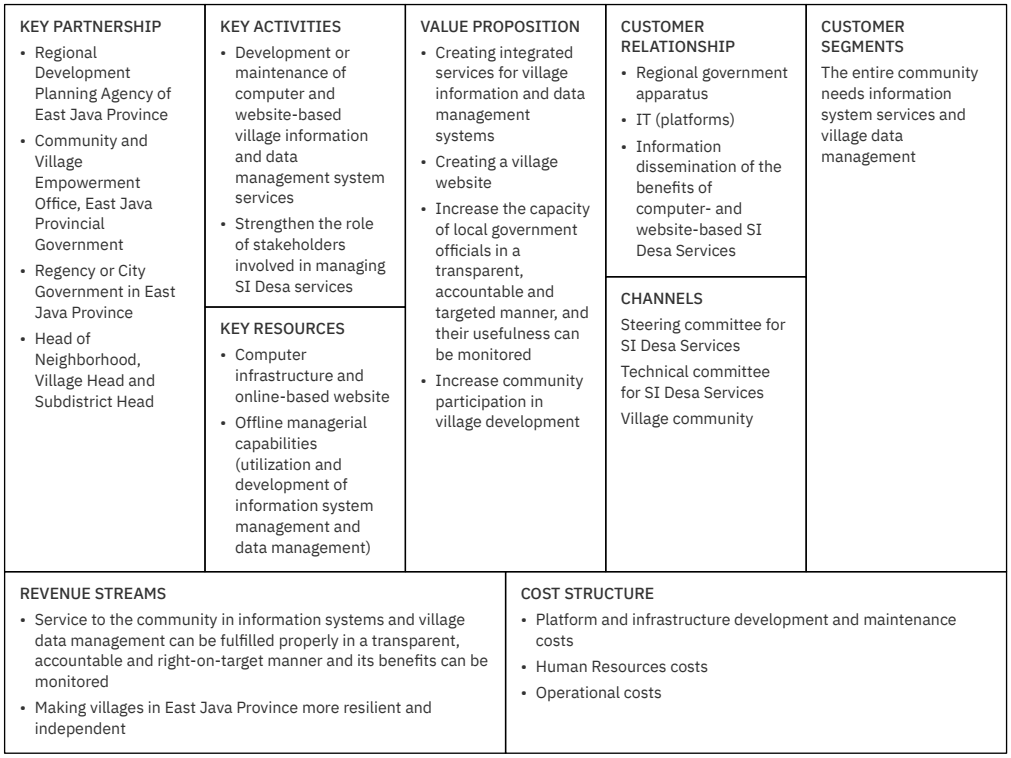

Figure 5. Business Model Canvas in SI Desa Services

Source: KOMPAK (2018a, 2018b).

Based on the results of the business model canvas analysis, it shows that: (1) key partnerships, which were initially the result of an initiation from the East Java Provincial Government, are now being expanded to include several other stakeholders starting from the Head of Neighborhood, Village Head and Head of Subdistrict to Regional Apparatus Organizations using Memorandum of Understanding.; (2) key activities, which emphasize related to the presence of the SI Desa Service as part of the development and maintenance of information system services and village data management by utilizing the integration of all stakeholders involved; (3) key resources, which help to run the SI Desa Service, emphasize the readiness of existing infrastructure and managerial capabilities in managing it; (4) value propositions, which initially only focused on providing information system services and village data management which later developed into creating village websites, increasing the capacity of local government apparatus and increasing community participation in village development; (5) customer relationships, to improve communication with its users, the SI Desa Service uses IT based on a user friendly platform managed by local government officials and of course by socializing

the benefits of the SI Desa Service to its users; (6) channels, optimizing the benefits of SI Desa Services is carried out by the steering committee and technical committee as well as the village community; (7) customer segments, which must be embraced by the East Java Provincial government in order to optimize the benefits of SI Desa Services in the form of the whole community who need information system services and village data management; (8) revenue streams, by maximizing customer segments, and improving customer relationships, channels and value proportions, the income of the East Java Provincial Government which initiated the SI Desa Service can increase in the form of providing excellent service to the community and supporting villages in East Java Province to become more resilient and independent; (9) cost structure, by increasing key partnerships, key activities, and key resources, of course the costs for initiating SI Desa Services that must be borne by the East Java Provincial Government will be higher, such as costs for developing and maintaining services, HR costs, and operational costs.

The development of this research provides valuable input for the East Java Provincial Government in initiating a village information and data management system through SI Desa Services (Barney, 1991; Iswahyuni & Permana, 2018). This service is expected to be an effective communication channel for informing village conditions, development plans, village empowerment, and development achievements to the community, village government, ministries, institutions, regional work units, and other institutions (Anoraga, 2007). The information provided in this service is integrated with Village SDGs, Village Development Index, Village-Owned Enterprises, and Village Funds, so that data on village conditions and needs becomes more comprehensive and can be used as a reference in carrying out development and empowerment activities in villages (Jun et al., 2014). The implementation of integrated services from village information and management systems initiated by the Community and Village Empowerment Office, the East Java Provincial Government through SI Desa will be equipped with several services to support the performance of the local government (Ariyanto et al., 2022), namely:

Table 4. SI Desa Integrated Service Program

Service	Description	Information provided	Source
Population	Used for village community service processes that are integrated with the Population and Civil Registration Service	• Population based on age • Population based on gender • Population based on Education • Population based on type of work • Population based on blood type	Population Administration Information System
Social Welfare	Used to determine the welfare conditions of village communities integrated with the East Java Provincial Social Service	• Community welfare data • Main fuel data for cooking • Data on the availability of public bathing, washing, and toilet facilities • Data on community drinking water sources • Data on the community's main source of lighting • Data on community residence status	Integrated Social Welfare Data
Village Finance and Funds	Used to monitor and ensure good and transparent village financial governance. Data obtained through this service can be used to conduct analysis, monitoring and evaluation of the use of village funds and overall village financial performance.	• Data from village budgets • Data on the number of villages with integrated financial services • Transfer data from village fund distribution from the State General Treasury Account to the Regional General Treasury Account • Data on the transfer of village funds from the Regional General Cash Account to the Village Cash Account	• Village Financial System • Online Application for Monitoring the State Treasury and Budget System

Service	Description	Information provided	Source
Disability	Used to determine the condition of village communities who have disabilities, which is integrated with the Social Affairs Office of East Java Province	Data on the number of village residents based on type of disability	Integrated Social Welfare Data
Uninhabitable House	Used to determine the living environmental conditions of village communities, which are integrated with the Public Housing, Settlement Areas and Human Settlements Department of East Java Province	• Data on the number of uninhabitable houses in village communities • Remaining intervention data on uninhabitable houses	Housing and Settlements Management Information System
Developing Village Index	Used to measure the overall level of village progress. This data can assist in formulating policies, directing resources, and providing appropriate support to villages that need to achieve self-sufficiency	Development Village Index data for all villages in East Java Province	• Social Resilience Index • Economic Resilience Index • Village Ecological Resilience Index

Source: Dinas Pemberdayaan Masyarakat, Desa, Kependudukan Dan Pencatatan Sipil Provinsi Jawa Tengah (2020), modified.

4. Conclusion

The results of the business model canvas on the Village SI Service showed that the success of implementing this service will depend heavily on the implementation of the duties and responsibilities of each stakeholder involved in accordance with the memorandum of understanding on the preparation of systematic, complete and accurate planning based on the system information and management of village economic data based on computers and websites. In order to realize the ideal SI Desa Service, a strategy is needed in the form of managing information systems and data management based on computers and websites, which are also supported by good facilities and infrastructure, so that local government performance becomes more optimal because: (1) time efficiency; (2) information system management and data management become more well organized; (3) supports good decision-making processes; (4) making village development transparent, accountable and on target; (5) improving government management.

Related to the management of information systems and data management based on computers and websites, accessing the community becomes easier and faster. Improvement of local government apparatus through workshops, training and socialization of administrative arrangements and operationalization of information system services and data management based on computers and websites To optimize various the potential possessed by the village government and to make the management of information systems and data management ideal, it is necessary to create a village website in the form of an SI Desa Service to make villages throughout East Java Province become more resilient and independent.

Considering the advantages and disadvantages of the SI Desa Service, the Community and Village Empowerment Office, East Java Provincial Government implemented this service to support the management of information systems and village economic data management to be integrated, transparent, accountable and on target so that it can support the performance of regional government in supporting optimal village development to make villages more resilient and independent. This is because later, this service can become an example of service for other provincial governments, providing a good multiplier effect on the development of their respective regions. The wider this service, the better the distribution of regional development, which has the potential to increase regional prosperity and economic independence.

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References

Adinarayana, J., Raj, F. J., & Sharma, V. (2015). Village Level Information System – A Tool for Decentralized Planning at District Level in India. *Journal of Environmental Informatics, 4*(2), 56–64. https://doi.org/10.3808/jei.200400037

Akbar, M. F., Jaya, F. H., & Putubasai, E. (2019). Implementasi Website Desa dalam Pemberian Pelayanan Informasi Pembangunan. *Jurnal Teknologi dan Komunikasi Pemerintahan, 1*(1), 42–51. https://doi.org/10.33701/jtkp.v1i1.888

Anggreni, N. M. M., Ariyanto, D., Suprasto, H. B., & Dwirandra, A. A. N. B. (2020). Successful Adoption of the Village's Financial System. *Accounting, 6*(6), 1129–1138. https://doi.org/10.5267/j.ac.2020.7.005

Anoraga, P. (2007). Pengantar Bisnis: Pengelolaan Bisnis dalam Era Globalisasi. Rineka Cipta.

Apriyansyah, Maullidina, I., & Purnomo, E. P. (2018). Efektivitas Sistem Informasi Desa (SID) dalam Pelayanan Publik di Desa Dlingo, Kecamatan Dlingo, Kabupaten Bantul. *JAKPP (Jurnal Analisis Kebijakan dan Pelayanan Publik), 4*(1), 10–24. https://doi.org/10.31947/jakpp.v4i1.5901

Ariyanto, D., Dewi, A. A., Hasibuan, H. T., & Paramadani, R. B. (2022). The Success of Information Systems and Sustainable Information Society: Measuring the Implementation of a Village Financial System. *Sustainability, 14*(7), 3851. https://doi.org/10.3390/su14073851

Athia, I., Saraswati, E., & Normaladewi, A. (2018). Penerapan Business Model Canvas (BMC) untuk Mendorong Mindset Kewirausahaan di Kalangan Mahasiswa Universitas Islam Malang. *JU-ke (Jurnal Ketahanan Pangan), 2*(1), 66–75. https://jim.unisma.ac.id/index.php/JU-ke/article/view/1051

Barney, J. (1991). Firm Resources and Sustained Competitive Advantage. *Journal of Management, 17*(1), 99–120. https://doi.org/10.1177/014920639101700108

Braza, A. S. (2020, April 23). *Pentingnya Menerapkan Business Model Canvas*. Binus University School of Information Systems. https://sis.binus.ac.id/2020/04/23/business-model-canvas-2/

Cheisviyanny, C., Helmy, H., & Dwita, S. (2018). Analisis Kualitas Website Pemerintah Daerah Kabupaten/Kota di Provinsi Sumatera Barat. *Simposium Nasional Keuangan Negara, 1*(1), 1087–1104. https://jurnal.bppk.kemenkeu.go.id/snkn/article/view/274

Dinas Pemberdayaan Masyarakat, Desa, Kependudukan dan Pencatatan Sipil Provinsi Jawa Tengah. (2020). *SIDesa Jawa Tengah*. SIDesa Jawa Tengah. https://sidesa.jatengprov.go.id

Direktorat Pembinaan dan Pengembangan Kewirausahaan/Simpul Tumbuh. (2021, June 12). *Pelatihan UMKM: Business Model Canvas (BMC)*. Direktorat Pembinaan dan Pengembangan Kewirausahaan/Simpul Tumbuh. https://simpultumbuh.uii.ac.id/business-model-canvas-bmc/

Hartono, Utomo, D., & Mulyanto, E. (2010). Electronic Government Pemberdayaan Pemerintahan dan Potensi Desa Berbasis Web. *Jurnal Teknologi Informasi, 6*(1), 9–21.

Hermawan, A., & Pravitasari, R. J. (2013). *Business Model Canvas (Kanvas Model Bisnis)*. Akselerasi.id.

Indrajit, R. E. (2022). *Electronic Government: Strategi Pembangunan dan Pengembangan Sistem Pelayanan Publik Berbasis Teknologi Digital*. Andi.

Irawan, D. (2017). Perancangan Sistem Informasi Pendistribusian Obat dan Alat Kontrasepsi di Kantor Badan Keluarga Berencana dan Pemberdayaan Perempuan Kota Lubuklinggau Berbasis Web Mobile. *JUTIM (Jurnal Teknik Informatika Musirawas), 2*(1). https://doi.org/10.32767/jutim.v2i1.24

Iswahyuni, E., & Permana, B. I. (2018). Pelayanan Publik dalam Era Otonomi Daerah di Desa Wongsorejo. *JPPKn (Jurnal Ilmiah Pendidikan Pancasila dan Kewarganegaraan), 2*(2), 1–4. https://ejournal.unibabwi.ac.id/index.php/jppkn/article/view/655

Jun, K.-N., Wang, F., & Wang, D. (2014). E-Government Use and Perceived Government Transparency and Service Capacity. *Public Performance & Management Review, 38*(1), 125–151. https://doi.org/10.2753/PMR1530-9576380106

Kementerian Komunikasi dan Informasi. (2003). *Kebijakan dan Strategi Nasional Pengembangan E-Government (Inpres No. 3 Tahun 2003): Panduan Manajemen Sistem Dokumen Elektronik Versi 1.0*. Kementerian Komunikasi dan Informasi.

Kementerian Komunikasi dan Informasi. (2020). *Rintisan Startup, Talenta Digital, Ide, Inovasi*. Kementerian Komunikasi dan Informasi.

KOMPAK. (2018a). *Integrasi Sistem Informasi Desa dan Basis Data Terpadu*. KOMPAK.

KOMPAK. (2018b). *KOMPAK Living Design Document 2015-2022*. KOMPAK.

Kristiansen, S., Dwiyanto, A., Pramusinto, A., & Putranto, E. A. (2009). Public Sector Reforms and Financial Transparency: Experiences from Indonesian Districts. *Contemporary Southeast Asia, 31*(1), 64–87. https://www.jstor.org/stable/41288789

Lisnawati, & Lestari, S. (2019). Analisis Faktor Pembangunan Desa dalam Pengembangan Desa Mandiri Berkelanjutan pada Desa Bunghu Aceh Besar. *Publisia: Jurnal Ilmu Administrasi Publik, 4*(2), 157–167. https://doi.org/10.26905/pjiap.v4i2.3390

Manoby, W. M., Afriyanni, A., Fitri, S. E., Pranasari, M. A., Setyaningsih, E., Rosidah, R., & Saksono, H. (2021). Digital Village: The Importance of Strengthening Village Resilience in the Digital Age. *Jurnal Bina Praja, 13*(1), 53–63. https://doi.org/10.21787/jbp.13.2021.53-63

Manoharan, A. P., & Ingrams, A. (2018). Conceptualizing E-Government from Local Government Perspectives. *State and Local Government Review, 50*(1), 56–66. https://doi.org/10.1177/0160323X18763964

Mellouli, M., Bouaziz, F., & Bentahar, O. (2020). E-government Success Assessment From a Public Value Perspective. *International Review of Public Administration, 25*(3), 153–174. https://doi.org/10.1080/12294659.2020.1799517

Mislawaty, S. E., Harahap, R., & Anisyah, S. (2022). Digitalizing Governance in South Sumatera: An Introduction "E-Sumsel" System Reforming Public Service Management. *Jurnal Bina Praja, 14*(3), 399–411. https://doi.org/10.21787/jbp.14.2022.399-411

Nikiforova, A. (2021). Smarter Open Government Data for Society 5.0: Are Your Open Data Smart Enough? *Sensors, 21*(15), 5204. https://doi.org/10.3390/s21155204

Nurdin, Stockdale, R., & Scheepers, H. (2012, July 15). Benchmarking Indonesian Local E-Government. *PACIS 2012 Proceedings*. https://aisel.aisnet.org/pacis2012/115

Osterwalder, A., & Pigneur, Y. (2010). *Business Model Generation: A Handbook for Visionaries, Game Changers, and Challengers*. Wiley.

Paquette, S., Jaeger, P. T., & Wilson, S. C. (2010). Identifying the Security Risks Associated With Governmental Use of Cloud Computing. *Government Information Quarterly, 27*(3), 245–253. https://doi.org/10.1016/j.giq.2010.01.002

Polii, R. R., Rindengan, Y. D. Y., & Karouw, S. (2017). Analisa dan Perancangan Sistem Informasi Desa Berbasis Web Model Government-to-Citizen. *Jurnal Teknik Informatika, 12*(1). https://doi.org/10.35793/jti.12.1.2017.17789

Pristiyanto, D. (2015). *Panduan Penyusunan Rencana Pembangunan Jangka Menengah Desa*. Yayasan Penabulu.

Rozi, F., Listiawan, T., & Hasyim, Y. (2017). Pengembangan Website dan Sistem Informasi Desa di Kabupaten Tulungagung. *Jurnal Ilmiah Penelitian dan Pembelajaran Informatika, 2*(2), 107–112. https://doi.org/10.29100/jipi.v2i2.366

Sosiawan, E. A. (2008a). Evaluasi Implementasi E-Government pada Situs Web Pemerintah Daerah di Indonesia: Prespektif Content dan Manajemen. *Seminar Nasional Informatika (SEMNASIF), 1*(5), 88–98. http://jurnal.upnyk.ac.id/index.php/semnasif/article/view/759

Sosiawan, E. A. (2008b). Tantangan dan Hambatan dalam Implementasi E-Government di Indonesia. *Seminar Nasional Informatika (SEMNASIF), 1*(5), 99–108. http://jurnal.upnyk.ac.id/index.php/semnasif/article/view/760

Sosiawan, E. A., Susilastuti, & Wiendijarti, I. (2004). Pemanfaatan dan Penggunaan Ruang Komunikasi Virtual pada Web Site Pemerintah Daerah di Wilayah Provinsi Daerah Istimewa Yogyakarta. *Paradigma: Jurnal Masalah-Masalah Kebijakan, 8*(1), 56–72.

Sujono, E. (2017). *Mengembangkan Potensi Masyarakat di Desa & Kelurahan*. Deepublish.

Supriyati, & Bahri, R. S. (2020). Model Design of Accounting Information Systems for Village Owned Enterprises (BUMDes). *IOP Conference Series: Materials Science and Engineering, 879*(1), 012093. https://doi.org/10.1088/1757-899X/879/1/012093

Tim PPM Manajemen. (2014). *Business Model Canvas: Penerapan di Indonesia*. Penerbit PPM.

Tjitradi, E. C. (2015). Evaluasi dan Perancangan Model Bisnis Berdasarkan Business Model Canvas. *Agora, 3*(1), 8–16. https://publication.petra.ac.id/index.php/manajemen-bisnis/article/view/2708

Universitas Bina Darma. (2021). *Business Model Canvas*. Universitas Bina Darma. http://eprints.binadarma.ac.id/8187/

Wahid, F. (2004). Lessons from E-Government Initiatives in Indonesia. *Media Informatika, 2*(2), 13–21. https://journal.uii.ac.id/media-informatika/article/view/11

Wargadinata, E., Aly, E. S., & Alma'arif. (2022). Evaluation of Jakarta Province in Information and Technology Management. *Jurnal Bina Praja, 14*(3), 453–464. https://doi.org/10.21787/jbp.14.2022.453-464

Yunita, N. P., & Aprianto, R. D. (2018). *Kondisi Terkini Perkembangan e-Government di Indonesia: Analisis Website*. 329–336.