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Science and Technology Index

Daftar Isi (Table of Content)
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Digital Transformative Resilience: Measuring Urban Governance Capacity to Improve Quality Public Services

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Abstract

Population growth, increasing needs, and community demands for the quality of digital-based public services through the Electronic-Based Government System (SPBE) are challenges that must be considered by the Malang City Government. An in-depth exploration of the government's capacity in the digital governance process needs to be carried out. The aim is to see the extent to which the government is able to meet the needs of the community and ensure the resilience of the digital transformation that has been developed. This research was conducted in Malang City because it has interesting conditions including population, several advantages and potentials, adequate infrastructure, government and community readiness, and SPBE index achievements. The research method used was qualitative analysis through a case study in line with Cresswell's qualitative design. The data triangulation method was applied to ensure data validity. Data analysis in qualitative research aims to minimize bias and misinterpretation when constructing arguments. Then the conclusion is drawn and the results are presented in the form of narrative information. The result is that government governance in implementing SPBE in Malang City has strived to have a capacity that is in accordance with the needs and demands of society. This means that the government seeks the resilience of digital transformation amid the challenges and threats that continue to arrive. This is evidenced through regulatory support that builds the realization of integrated SPBE, strengthening policies, governance, management, and also SPBE services. The SPBE achievement index continues to increase and public services are of higher quality. However, proactive, adaptive, responsive, and dynamic innovations need to be developed in the face of rapid social changes in society.

Keywords: Resilience, digital transformation, governance, system of electronic-based government (SPBE), quality public services

Abstrak

Pertambahan jumlah penduduk, peningkatan kebutuhan, dan tuntutan masyarakat terhadap kualitas layanan publik berbasis digital melalui Sistem Pemerintahan Berbasis Elektronik (SPBE) menjadi tantangan yang wajib diperhatikan Pemerintah Kota Malang. Eksplorasi mendalam terhadap kapasitas pemerintah dalam proses tata kelola digital perlu dilakukan. Tujuannya adalah untuk melihat sejauh mana pemerintah mampu memenuhi kebutuhan masyarakat dan memastikan ketahanan transformasi digital yang telah dikembangkan. Penelitian ini dilakukan di Kota Malang karena memiliki kondisi yang menarik di antaranya jumlah penduduk, beberapa keunggulan dan potensi, infrastruktur yang memadai, kesiapan pemerintah dan masyarakat, serta capaian indeks SPBE. Metode penelitian yang digunakan adalah analisis kualitatif melalui studi kasus yang sejalan dengan desain kualitatif Cresswell. Metode triangulasi data diterapkan untuk memastikan keabsahan data. Analisis data dalam penelitian kualitatif bertujuan

untuk meminimalkan bias dan kesalahan interpretasi saat mengkonstruksi argumen. Kemudian penarikan kesimpulan dilakukan dan hasilnya disajikan dalam bentuk informasi naratif Hasilnya tata kelola pemerintah dalam pengimplementasian SPBE di Kota Malang telah diupayakan memiliki kapasitas yang sesuai dengan kebutuhan dan tuntutan masyarakat. Artinya pemerintah mengupayakan ketahanan transformasi digital di tengah tantangan dan anacaman yang terus berdatangan. Hal ini dibuktikan melalui dukungan regulasi yang membangun perwujudan SPBE terintegrasi, penguatan kebijakan, tata kelola, manajemen, dan juga layanan SPBE. Indeks capaian SPBE pun terus meningkat dan layanan publik semakin berkualitas. Meskipun demikian inovasi proaktif, adaptif, responsif, dan juga dinamis perlu terus dikembangkan dalam menghadapai perubahan sosial masyarakat yang cukup pesat.

Kata Kunci*: Ketahanan, transformasi digital, tata kelola pemerintahan, Sistem Pemerintahan Berbasis Elektronik (SPBE), kualitas layanan publik*

INTRODUCTION

The Malang City Government should adapt to digital transformation as a form of new revolution in the social system. Digital transformation through Smart Governance as the main pillar in the Smart City ecosystem must be ensured to run properly, especially in aspects of economic growth, innovation, and service effectiveness (Hadiono & Noor Santi, 2020). In this regard, the Malang City Government has carried out digital transformation through the development of infrastructure and digital application systems within the scope of government through the Electronic-Based Government System (SPBE) since 2018 (Diskominfo, 2023). This is strengthened by the smart city strategic planning reference that has been stipulated in Malang Mayor Regulation Number 43 of 2020 concerning the 2020-2025 Smart City Master Plan. The regulation directs the management of the city through effective and efficient utilization of resources for the convenience and improvement of the quality of life of the community (Hadi et al., 2020).

Popualtion of Malang City in **Year 2024 885.271 Jiwa**

Population of Malang City in **Year 2023**

847.182 Jiwa

Population of Malang City in **Year 2022**
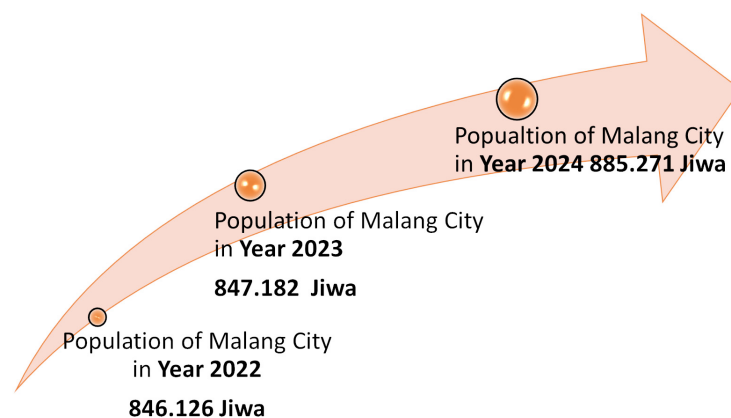
846.126 Jiwa

Figure 1. Population of Malang City from Year to Year
Source: Central Bureau of Statistics

In relation to the community, data from the Central Statistics Agency (BPS) (Figure 1) shows that the population in Malang City as of 2021 is 844,933 people. Then in 2022 it increased to 846,126 people. In 2023 the population of Malang City reached 847,182 people and continued to increase to 885.271 thousand people per year 2024. Population growth in Malang City increases every year with the majority of the population being of productive age. In addition, Malang itself is a city with many well-known universities so that the environment is flooded with students or immigrant residents. Quoting data from malangposcomedia.id per year 2024 alone, there are around 100 thousand new students who come to Malang City (Malangposcomedia, 2025). This of course will be directly proportional to the increasing needs of the community for the use of digital technology (Congge et al., 2023). It is appropriate that an environment based on the use of the internet of things and the development of information communication technology is always considered by the government, especially in the aspect of providing services to the community through SPBE. Changes in lifestyle and an increase in population certainly require government preparedness in carrying out digital transformation (Borucki & Hartleb, 2023).

In line with government preparedness, the performance evaluation of all government service applications and public services in Malang City still needs to be done. This is to review the effectiveness of the SPBE policy that has been previously established. Considering that Malang City Diskominfo data shows that more than 30 old applications must be streamlined (Pemerintah Kota Malang, 2024d). This shows that the governance that has been carried out by the government in terms of digital transformation still needs a lot of improvement through careful innovation planning. The goal is to avoid the problem of stalled applications or applications that are not integrated with central and regional systems. The lack of management capacity that leads to application deactivation is of course detrimental to many things, especially the budget (Sulistyaningsih et al., 2020). Although Malang City reached the top 10 national SPBE implementation in the city category in the Digital Government Award 2024 some time ago, future application development issues still need to be considered. The steps that must be taken are not necessarily developing the application alone but ensuring that the application is useful and sustainable (Niño-Sandoval et al., 2023).

Referring to this reality, the main question is whether the next Malang City government governance system is ready and able to ensure that digital transformation, especially in the aspect of government, has the capacity to be equal to the conditions and needs of society?. In this context, the government's unpreparedness will be a big problem because SPBE implementation is not merely pursuing digitalization, but realizing impactful bureaucratic reform (Roziqin, Nurjaman, et al., 2024). The increasing need for government services must be accompanied by government responsiveness in managing digital systems (Vlad et al., 2023). The emergence of problems of limited physical facilities and infrastructure of

telecommunications networks, finance, limited human resources (HR) and the rampant threat of cyber-crime (hackers) are real risks (Roziqin, Kamil, et al., 2024). Not to mention that the government must be able to ensure that digital transformation is accepted and utilized by all elements of society.

These problems can be minimized through the realization of digital resilience in governance. According to Rothrock, (2018) resilience itself can be defined as the capacity of an individual or organizational system to maintain its core purpose and integrity in the face of drastic change. In the context of digital resilience, an organization must be able to ensure the continuation of the process when the existing system is facing challenges and problems (Rothrock, 2018b). The International Telecommunication Union (ITU) also reinforces this through an explanation that digital resilience requires the ability of managers to recover from various system problems (Hanita, 2023). Through digital transformation resilience, the government must have the ability to manage, prepare, face, as well as recover from various challenges, disruptions, and threats to digital processes.

This research aims to look at the resilience of government digital transformation, namely SPBE through a good governance system in Malang City. This research intends to explore the power of new governance processes and established planning mechanisms. Given that there is no research that examines the resilience of digital transformation in Malang City. Some other studies state that transformative capacity indicates the capacity of individuals and organizations to be able to change themselves and their society in a deliberate and conscious way. This will challenge all intellectual foundations of digital transformation resilience in a conservative and reformative manner. A call for proactive innovation in digital resilience governance and planning to drive sustainability management and government preparedness is certainly warranted.

METHOD

This research uses qualitative analysis with case studies in line with Cresswell's qualitative design (Creswell & Poth, 2016). Malang City was chosen as a research location related to the implementation of digital transformation in the Electronic-Based Government System (SPBE) because it has interesting conditions including population, several advantages and potentials, adequate infrastructure, government and community readiness, and SPBE index achievements. Seeing the continuous implementation of SPBE can show the government's aggressiveness in ensuring the resilience of digital transformation through good governance.

Primary and secondary data were used in this research. Observations, interviews, and literature studies were conducted with document analysis from official government reports. Primary data was obtained from interviews with key informants, government leaders, and the Malang City Communication and Information Bureau. The selection of informants was done purposively, with the consideration that these actors have a formal role in the

development of SPBE. Semi-informal interviews were conducted with reference to a question guide designed to collect information and data that answer the research questions. Secondary data used was obtained from the literature of "Urban Governance", "Digital Transformation" "Digital Resilience" "Electronic Based Government System" and journals related to the resilience of digital transformation in urban governance. While the documents used are related to Malang City regulations, RPJMD, RKPD, and Smart City Master Plan, as well as supporting data in the system integration process.

The data triangulation method was applied to ensure data validity. According to Creswell & Poth (2016) data triangulation includes several stages, namely reading data from various sources, processing phenomena and research questions, and analyzing data by synthesizing information from various sources. Data analysis in qualitative research aims to minimize bias and misinterpretation when constructing arguments. Then the final step is to draw conclusions which are then presented in the form of narrative information.

RESULT, DISCUSSION, AND ANALYSIS
Force Guidelines: Integrative Policy for SPBE Governance in Malang City

The Electronic-Based Government System (SPBE) built by the Malang City government since 2018 continues to be developed through various applications and proactive innovations in technology towards better services and community life (Pemerintah Kota Malang, 2023). The basis for the implementation of SPBE itself is regulated in the Malang City Mayor's Regulation No. 55 of 2019 concerning Governance of Electronic-Based Government Systems (SPBE). In this context, the implementation of an electronic-based government system is aimed at ensuring transparent, accountable, and high-performance governance (Ratnasari et al., 2022). Digital transformation has been carried out through the development of infrastructure and application systems for SPBE. The emphasis on Smart Governance is also part of efforts to improve service quality in an integrative manner to meet public needs and satisfaction (Putra et al., 2021).

The implementation of SPBE in Malang City that has been carried out is still covered by various problems, especially related to system integration (Doramia Lumbanraja, 2020). The public complained that the number of applications made by the government caused confusion in use. In addition, the various systems actually make people avoid using them and still choose offline services even though they are more time-consuming and costly (Marthaningrum et al., 2019). The problem of integrating public service applications certainly has an impact on Malang City's low SPBE index. Therefore, there is instability in the results of the SPBE index assessment in Malang City, which previously tended to decrease from year to year. This condition really challenges the government to be responsive and active in facing the challenges and problems of public services that occur in the midst of digital

transformation (Seta et al., 2023). This emphasis is of course to ensure the resilience and sustainability of SPBE implementation.

Following up on this, in 2023 the Malang City Government issued an integrative policy through Malang Mayor Regulation No. 8 of 2023 concerning Electronic-Based Government Systems (SPBE). This regulation emphasizes the integration of digital systems within the scope of government as an effort to improve the quality of government administration. Given that the Malang City government must face the development of information and communication technology that continues to grow, it requires an SPBE that is integrated with the national electronic-based government system. In this regulation, the guidelines for implementing integrated SPBE are regulated through the SPBE architecture and plan map to produce integrated services in the Regional Government. **SPBE Architecture** is a basic framework that will describe the integration of Business Processes, Data and Information, SPBE Infrastructure, SPBE Applications, and SPBE Security to produce integrated SPBE Services. Meanwhile, the **SPBE Plan Map** is a document that describes the direction and steps for preparing and implementing integrated SPBE in Malang City.
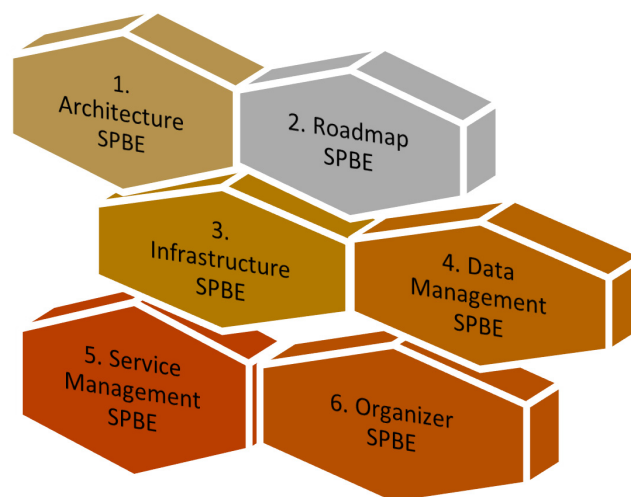
Figure 2. Supporting Components of Integrated SPBE in Malang City
Source: Research processed data

Referring to (Figure 2) this step answers the challenges of needs and problems related to public services to the community that can threaten the resilience and sustainability of SPBE implementation in Malang City. Through this policy, all regional apparatus must use **SPBE Infrastructure**, namely the intra network and regional government service linking system in accordance with the provisions. This is intended to increase efficiency, security, and ease of integration in the implementation of SPBE in the Malang City Regional Apparatus. The fourth part of the policy also regulates **Data Management** through the process of

managing data architecture, master data, reference data, databases, and data accountability. The aim is to ensure the realization of integrated, accurate, up-to-date, and accessible data as the basis for planning, implementing, evaluating, and controlling national development.

In addition to data management, the crucial thing to do is **SPBE Service Management** as explained in the ninth section of the regulation. Through SPBE service management, the sustainability and quality improvement of SPBE services to the community will be guaranteed. SPBE services referred to in this case are service activities for complaints, disruptions, problems, requests, and changes to SPBE Services, and management of SPBE Applications. In order to ensure that the implementation of SPBE continues to be unified and integrated, the regulation also contains a policy for the formation of a **Coordination Team** in charge of coordinating and implementing SPBE policies in the Regional Government.

Table 1. Example of Integrated Application in Malang City

No		Penggunaan Aplikasi
1	Jogo Malang Presisi Application	• Integrated with 15 agencies and 9 hospitals in Malang City • A means of reporting lost SIM or STNK, crime, accidents, fires, and power outages • SKCK Management • This application has a Panic Button On Hand feature that can be used to contact the police quickly
2	Malang Mbois Application	This application is a one-stop service that combines services from various regional devices in Malang City.
3	SIAPEL Application	Integration of population administration services
4	PedeKate SAM Reborn Application	Application to intervene in poverty and extreme poverty issues of Malang City government

Source: Research Processed Data

Based on the data in table 1, the integration of SPBE in Malang City has resulted in the impact of improving public services supported by government digitization, one of which is manifested in the development of the Merdeka Public Service Mall (MPP) which makes it easier for citizens to access hundreds of public services (Aldi et al., 2024). Quoting data from the presentation of the Regional Secretary (Sekda) of Malang City Erik Setyo Santoso, S.T., M.T, in order to answer the problem of integrating digital systems, for example in terms of administration, currently population administration services have been presented digitally with various conveniences because they have been integrated inclusively through https://siapel.malangkota.go.id. Then in order to intervene in identifying poverty and extreme poverty

problems, the Malang City government also developed the PedeKate SAM Reborn Application. Not stopping there, as the home of public service integration in Malang City, the government also innovated a single integrated public service portal. Through this service portal there are 72 types of services and 31 information systems that have been integrated. Not stopping there, digitization and innovation of taxation services also support the strengthening of regional fiscal independence, such as the ease of tax payment services through various online payment channels including E-Banking / M-Banking, E-Commerce, Digital Wallet, and also QRIS. This integrative policy in SPBE governance in Malang City is a form of government preparedness in facing the needs and rapid changes in society (Pemerintah Kota Malang, 2024).

SPBE Dynamics and Ecosystem in Kota Malang

Electronic-based government system (SPBE) dynamics and ecosystems are a series of processes related to SPBE development in Malang City so far. This includes the elements that are related to it, development challenges, and the journey of SPBE governance to improve the quality of public services and impactful bureaucratic reforms. The dynamics and ecosystem of SPBE in Malang City can at least be explained through the following sub-chapters:

a.   Interaction Between Institutions, Human Resources, and SPBE Infrastructure

In the SPBE development process, institutions, human resources, and infrastructure are vital elements that are interrelated and interact with each other. To facilitate understanding, consider Figure 3 below.
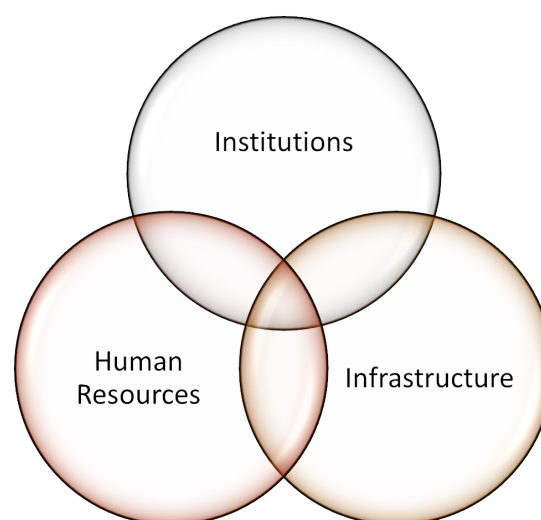

Figure 3. Interaction between Institutions, Human Resources, and Infrastructure
Source: Research processed data

In the SPBE development process, government institutions become the main foundation that supports the implementation of proactive policies and innovations (Kamil et al., 2025). Malang City has shown a strong commitment by issuing policies to support the development of SPBE. This commitment must be strengthened through "political will" to reform institutional city governance including aspects of transparency, accountability, public participation, and good financial management through changes in the use of digital systems (Handayani, 2023). The Malang City Communication and Informatics Service (Diskominfo) is a government institution that has a crucial role as a leading sector in the realization of SPBE in Malang City. The INFORMATIVE vision, which means Innovative, Flexible, Original, Advanced, Measurable, Integrity, and Factual, is the basis for efforts to improve service quality through digital transformation. Strengthened through a mission aimed at realizing a communication and informatics service bureaucracy that has high moral integrity, is optimal, and an integrated and integrated e-government-based government service system.

Strong commitment from the government and support from various related government institutions can realize impactful reforms through changes in bureaucratic culture and policy implementation that are more effective and responsive to community needs (Pahrudin et al., 2022). The Malang City Government is actively carrying out institutional improvements, especially in changing the traditional bureaucratic culture to a more modern digital transformation (Alfiyaturrahmah, 2023). Cooperative, dynamic, adaptive, and responsive government institutions to the development of the times and the demands of the community's needs will be a lubricant in the realization of a resilient and sustainable SPBE. Several efforts to ensure that government institutions can truly have the capacity to implement SPBE are also carried out through a series of public tests. The government is testing various electronic-based public services through a public test program that involves active participation from the community (Eruchalu et al., 2021). The results of the public test are used as input to make improvements and adjustments to the programs being developed.

Speaking of institutions, human resources are a vital part of implementing digital transformation in them (Kraus et al., 2021). The governance capacity of government human resources must be able to support the resilience of the digital transformation system. In the realm of SPBE implementation, the quantity and quality of these human resources must be considered. In this context, creative, adaptive, and innovative government human resources are of course very much needed (Muliawaty & Hendryawan, 2020). This results in the consequence that in general the government apparatus in each OPD of Malang City must be able to adapt to change and be active in identifying new opportunities for public service innovations needed by the community. Specifically, existing human resources must be able to play a role in accordance with their duties and functions in supporting the implementation of SPBE.

Government personnel must have strong project management skills to plan, implement and evaluate smart SPBE governance projects. Referring to the explanation from the official website of SPBE Malang City, the human resources of the organizers in SPBE governance consist of a coordination team. The coordination team is led by a coordinator appointed by the head of the agency. This team has the task of controlling, directing, and evaluating SPBE, including implementing policy formulation and implementation of SPBE in their respective agencies. Those who are members of the SPBE coordination team can be aligned with the ICT steering team, ICT steering committee, or steering committee which have duties as explained previously.

The team as an organizing resource must be able to ensure that other apparatus as user human resources can utilize the SPBE system that has been created. Given that the ability of human resources in managing is the main key to the success of SPBE. Moreover, the SPBE organizers must also be able to collaborate, such as through collaboration forums that serve as a forum for exchanging information and building beneficial cooperation in increasing the capacity of SPBE implementation, such as in relation to the quality of human resources, public services, or the SPBE infrastructure itself. Institutions include institutions that will be a forum where managers as human resources carry out the construction, development, and utilization of SPBE infrastructure as per the duties and functions of the relevant institutions.

In relation to the utilization of infrastructure, the SPBE infrastructure itself is also a vital element that cannot be ignored (Dorhot et al., 2023). In this context, the SPBE infrastructure is a series of hardware, software, networks, and service systems needed in implementing SPBE in Malang City. The SPBE infrastructure itself is provided by the Malang City government and according to the latest policy, the infrastructure is 'mandatory' to be utilized by all Regional Apparatus Organizations (OPD) of Malang City. Through Article 11 of the Malang Mayoral Regulation No. 8 of 2023, it is stated that the SPBE infrastructure consists of 2 main components, namely the Intra Network in the Regional Government and also the Regional Government Service Connector System. In this context, digital transformation built through the development of technology, information and communication becomes a crucial process.

This process is of course supported by the availability of the internet which is an important part of the use of SPBE. In addition to the internet, sectoral databases are also needed to ensure an up-to-date and valid database. Given that the database is very important in the process of governance and the formation of regional development policies, from planning to evaluation of implementation. Therefore, the SPBE infrastructure related to the data system must still be strengthened and integrated through a 'big data' system. Following up on the importance of this SPBE infrastructure, the Malang City Government continues to strengthen communication of cooperation and collaboration policies with various parties such as the

private sector. This is done to ensure the availability and quality of infrastructure is equivalent to the needs of government governance, public services, and the demands of the times (Esiefarienrhe & Mokeresete, 2022).

Through the explanation above, it can be seen that in the implementation of SPBE, the interaction between institutions, human resources, and infrastructure becomes 1 inseparable part. This means that when 1 element cannot function properly, it is certain that the implementation will not be able to run optimally. For example, when a government institution exists but human resources and infrastructure do not have adequate capacity, it is certain that the quality of the services produced will also have less impact because the SPBE being run is less or even not optimal. These three components interact and relate to each other to become a machine that will drive the wheels of development and the realization of SPBE in Malang City.

b. Challenges of SPBE Governance in Malang City

The implementation of SPBE in Malang City, which has started since 2018, certainly did not run smoothly. Various challenges arise from various aspects. In this case, the local government needs to mobilize all its capabilities so that problems do not threaten the resilience and sustainability of SPBE implementation in Malang City. The following are the challenges of SPBE implementation.

1. Population growth

   It has been explained previously that the population in Malang City, both native and immigrant, continues to grow (Hamdani et al., 2023). Data in 2024 even shows that the population in Malang City continues to increase to 885,271 people or an average annual population growth rate (CAGR) of 0.33%. The increasing population is of course a special challenge for the government in implementing SPBE. The government as the main pillar must be able to ensure that the SPBE governance carried out can meet the demands and needs of the community which are increasing every year.

2. Increasing need for innovation in the use of public services

   The increasing population is correlated with the increasing need for public services. The challenges that arise in implementing SPBE in this context are related to government capacity (Zubaidah et al., 2022). This means that the government must have adequate governance capacity to ensure that digital transformation within the government can meet the needs and demands of the community in obtaining public services. If successful, it will have an impact on public satisfaction and if it fails, it will have an impact on the decline in the quality of public services. For example, the Malang City Government previously used many applications related to public security. In fact, in this case, the community needs 1 application that can be connected to various security services. Given

that the more systems and applications will actually be confusing and take more time to use (Devi et al., 2021). From there, proactive innovation steps and impactful digital transformation must be immediately built and implemented.

3. Community digital literacy

In implementing SPBE, the challenges that arise related to digital literacy certainly cannot be ignored. In adopting new technology, the government needs to ensure that all levels of society can access digital services equally (Ardhia Rahmania et al., 2022). Several articles that raise issues related to digital transformation in Malang City show that there are still people who find it difficult to adapt to digitalization, one of the causes of which is minimal literacy.

4. Infrastructure

The existing information technology infrastructure must be ensured to be able to support all digital innovations and sustainable public services (Dyah Nawang Wulan & Widodo, 2020). Governance that does not support the development and construction of ICT infrastructure in Malang City must be ensured to be minimized because it will seriously threaten the sustainability and equitable implementation of SPBE (Tajuddin & Maulachela, 2021).

c.   Overview of SPBE Index Achievement of Malang City from Year to Year

SPBE Achievement Index is a value that indicates the level of maturity of the implementation of Electronic-Based Government System (SPBE) in a region. This index is calculated from the multiplication of the domain index value and domain weight (Alam et al., 2024). The SPBE Index value will represent the overall level of SPBE implementation. The following is a graph of the SPBE index of Malang City from year to year.
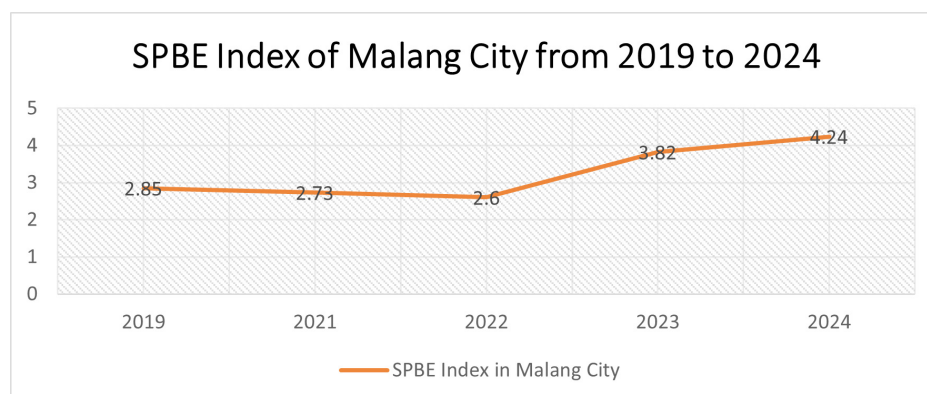

Chart 1. SPBE Index of Malang City from 2019 to 2024
Source: Official documents of the malang city government

Referring to the graph 3 above which is data from the Regional Secretary of Malang City, the instability of the SPBE implementation assessment index in Malang City from year to year can be seen. In 2019 the SPBE index was at 2.85, in 2021 it fell to 2.73, and even worse in 2022 the SPBE index in Malang City fell again to 2.60. This decline is of course highly correlated with the capacity of government governance in digital transformation through SPBE in Malang City. It seems that governance steps still need improvement and existing regulations still need to be strengthened through a series of other supporting policies considering that previous regulations have often not been able to support the optimal implementation of SPBE. Facing this reality, the Malang City Government continues to make improvements in aspects of SPBE development including through 4 main steps, namely Determining holistic policies, Improving SPBE governance, Strengthening SPBE management, and Strengthening SPBE services. To make it easier to understand, see the following table:

Table 2. Steps to Strengthen the Implementation of SPBE in Malang City

Policy Strengthening	Strengthening Governance
In 2019, the Malang City Government issued Malang Mayor Regulation No. 55 of 2019 concerning Electronic-Based Government System Governance. This regulation is a form of alignment with national policies and as a basis for compiling new follow-up regulations. Then in 2023, the government issued Malang Mayor Regulation No. 8 of 2023 concerning Electronic-Based Government Systems. This regulation was issued as a form of compiling supporting policies, derivatives, and policy implementation. In 2024, the strengthening of SPBE implementation policies continues to be carried out, including through: a. Mayor of Malang 'ecree No. 100.3.3.3/74/35.73.112/2024 Concerning the SPBE Coordination Team b. Mayor's Circular Letter Number 12 of 2024 Concerning Strengthening SPBE Implementation c. Mayor's Circular Letter Number 14 of 2024 concerning Guidelines for the Implementation of SPBE Management and ICT Audits in the Malang City Government Environment	Strengthening governance is carried out to ensure that the capacity of the Malang City Government in managing SPBE is appropriate. Throughout 2024, several governance strengthenings that have been carried out include the following: a. Review of SPBE architecture and plan maps, b. Alignment of SPBE planning and budgeting so that it can be in line with the Regional Apparatus Work Plan c. Carrying out the Inputting process into the SPBE Architecture Information System (SIA) V.2 KemenPANRB SPBE d. Updating the SOP for Application Development and Development e. Adding SOPs for maintenance and evaluation of regional applications. The results have been implemented and have an impact on the implementation of the efficiency of 32 regional applications that are no longer relevant f. Collaboration of Data Centers and Intra-Government Network Interconnection (National and Provincial Levels) g. Utilization of SPLP h. Preparation of the SPBE Coordination Team Action Plan i. Collaboration on the Implementation of SPBE with various parties such as Banking, Universities, Community, Media

Strengthening SPBE Management	Strengthening SPBE Services

a. Issuance of SE Mayor of Malang No. 14 of 2024 which regulates the Guidelines for the Implementation of SPBE Management and ICT Audit
b. Measurement of the KAMI index. The KAMI index is the Information Security Index of the Electronic-Based Government System
c. Operation of the CSIRT Team or a team engaged in digital security from digital crime or hackers
d. Coordination of metadata and data validation
e. Strengthening ICT HR management
f. Review and refinement of the SPBE Service, Change, and Knowledge Management Information System
	a. Utilization of all general applications in the implementation of Regional Government, including:
	  1. Planning: SIPD-RI Application
	  2. Budgeting: SIPD-RI Application
	  3. Finance: SIPD-RI Application
	  4. Procurement of Goods/Services: SPSE Application
	  5. Personnel: SIASN Application
	  6. Dynamic Archiving: Srikandi Application
	  7. Complaints: SP4N LAPOR! Application
	b. Support for Planning, Budgeting, and Finance Helpdesk services in the SIPD-RI Application
	c. Support for Helpdesk services in the procurement of goods/services
	d. Development of supporting applications for thematic poverty bureaucratic reform, namely PDKTSAM-Reborn
	e. Development of a Single Integrated Public Service Portal
	f. Updating and integrating data from various applications, especially Government Services and Public Services
	g. Development of the Financial and Asset Signature Information System (Sitangkas)
	h. Collaboration and Partnership in strengthening digital literacy. With this, Malang City achieved the highest Indonesian Digital Society Index (MDI) in East Java and the 5th best ranking nationally.

Source: Official documents of the malang city government

These efforts have yielded optimal results with an increase in the SPBE index in 2023 to 3.82 and in 2024 the SPBE index of Malang City has reached 4.24 (Pemerintah Kota Malang, 2024). Currently, the review process for the SPBE architecture and plan map has been carried out and has entered the stage of determining the policy results of the review. This increase shows the capacity of SPBE governance in Malang City in supporting digital resilience amidst the challenges of change and community needs. Digital-based public services are not just a form of transition but also truly show the existence of bureaucratic reform that has an impact

SPBE Governance Support in Achieving Digital Resilience

Digital resilience becomes more important as the use of digital systems changes. The increasing interconnection of systems to provide the same functionality compared to previous monolithic system architectures makes digital systems more complex. In the process of

implementing SPBE in Malang City, there are at least 5 main supports that are very much needed, namely political support, information technology support, budget support, stakeholder support, and community support (Maharani et al., 2024).
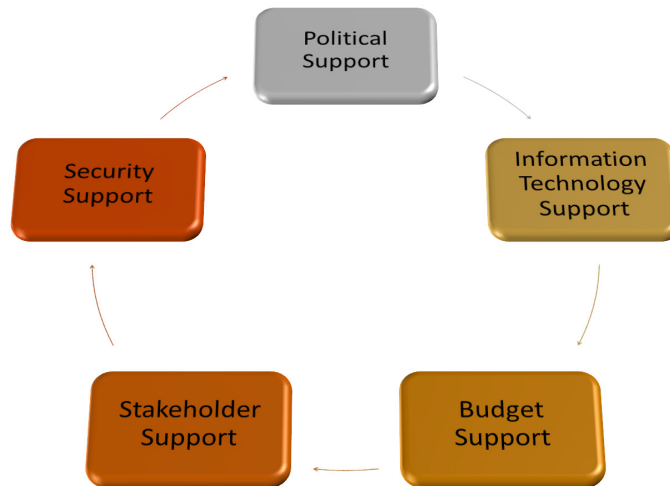

Figure 4. Support For the Implementation of SPBE Malang City
Source: Research processed data

Referring to Figure 4 above, the supports in the implementation of SPBE are interrelated and cannot be separated. This means that when 1 aspect of support does not run well, it will greatly affect the success of the implementation of SPBE. The following is an explanation of each support.

1. Political Support

   The Malang City Government always strives to create a political environment that supports efficient and high-performance governance. This can be proven by the issuance of public policies from 2018 to the present that can encourage the process of improving the quality of public services through SPBE. This means that authorized officials have played a very strategic role in supporting the sustainability and resilience of digital transformation in the implementation of SPBE in Malang City. An example that can be seen in the systematic implementation of political environment policies is during the leadership of Mr. Drs. H. Sutiaji, there was a lot of progress in improving SPBE (Pemerintah Kota Malang, 2022). For the performance of SPBE Malang City, the Acting Mayor of Malang Dr. Ir. Wahyu Hidayat, MM also expressed his appreciation and commitment to continue to encourage digitalization and integration of public services (Pemerintah Kota Malang, 2024b). The seriousness of the Malang City Government in accelerating the implementation of the Electronic-Based Government System (SPBE) for better public services has borne sweet fruit. For the first time, Malang City received the 2024 Digital Government Award (DGA)

and entered the 10 Best SPBE Implementation in the City Government Category which was presented at the 2024 SPBE Summit and the Launch of GovTech Indonesia at the State Palace.

2. Infrastructure Support

Information technology infrastructure support is very sophisticated to make the process of providing public services effective. Infrastructure should be built and developed. In this context, "building technology" should be interpreted complexly as an effort to prepare all the resources needed by the City Government in implementing SPBE, including hardware, software, and brainware. This infrastructure support can be exemplified through the construction and provision of internet access by the Malang City Government in all government offices, various public spaces, several tourist spots, and even 552 points in RW throughout Malang City. This also includes the services of 326 public CCTV points and of course the use of various digital service applications. Such as the Siapel Tegas application (Population Administration), the Si-Izol application (Regional Licensing and Non-Licensing), regional tax applications, the Sambat application (complaints) integrated with SP4N LAPOR, and the 112 emergency service (Wijaya, 2024). In the near future, these infrastructure and services will be presented in an integrated manner in a single service platform. Through adequate infrastructure, it is certain that the implementation of SPBE in Malang City will be easier to develop.

3. Budget Support

The Malang City Government has prepared an adequate budget to ensure that SPBE programs can run well and sustainably. Budget support is a very vital step in efforts to improve the performance of public services. Since the RPJPD (Regional Long-Term Development Plan) and RPJMD (Regional Medium-Term Development Plan) were established, this budget support has been prepared. This can be exemplified through a series of SPBE budget alignments in the Draft Regional Apparatus Work Plan for 2025. In this activity, 20 Regional Apparatus submitted their ICT budget plans, including the Internet/Intranet Network Development/Construction Budget, ICT Infrastructure Development/Construction Budget, and Information System Development/Construction Budget. By implementing the SPBE budget alignment desk in the Draft Regional Apparatus Work Plan for 2025, Regional Apparatus can better understand the existence of Mayoral Regulation Number 8 of 2023 concerning SPBE Article 7 and the alignment of ICT development with Mayoral Decree Number 188.45/195/35.73.112/2023 concerning SPBE Architecture and Mayoral Decree Number 188.45/196/35.73.112/2023 concerning SPBE Plan Map (Pemerintah Kota Malang, 2024). This activity is aimed at ensuring that the budget in the implementation of SPBE can be more systematically structured and planned. The aim is that during the implementation of SPBE the budget capacity remains adequate and implementation problems do not occur in the middle of the service process.

4. Stakeholder Support

In implementing the strategy to improve the quality of public services, the Malang City Government certainly involves all stakeholders including local government organizations (OPD), the community, educational institutions, and also the private sector to support the implementation of these programs. Support from local government organizations such as the Communication and Informatics Office, the Malang City Regional Development Planning Agency (Bappeda), the Malang City Regional Finance and Asset Agency, the Malang City Human Resources and Development Agency, the Population and Civil Registration Office and other OPDs can be seen through their contribution to the planning and implementation of SPBE in Malang City. Some examples are Bappeda which assists in the management of SPBE Malang City in terms of development and development such as in the field of planning. Then there is also Diskominfo which mobilizes and coordinates the implementation of SPBE in Malang City.

Apart from OPD, support also comes from the private sector which can be seen from the contributions of Grab, Gojek, PT Telkom Indonesia, and PT BANK Pembangunan Daerah in the development of SPBE infrastructure and systems in Malang City. Then support also comes from educational institutions, for example the Surabaya State Electronic Polytechnic which plays a role in helping formulate policies regarding the architecture and SPBE plan map in Malang City. Vital support also of course comes from the community. This can be shown through the Public Information Community program in Malang City which is aimed at increasing the openness of public information and ensuring inclusive information services for the community. Appreciation is also given to the Community Information Group (KIM) which has contributed to disseminating public information (Malang City Government). In addition, there is a thematic musrenbang program, namely a Development Planning deliberation forum that focuses on certain groups such as children, youth, women, the elderly, and disabilities to ensure that Malang City Development is inclusive and accommodates the needs of vulnerable groups (Prasetyo, 2024).

5. Security Support

Security support is a very important process because of its role in influencing data security and systems that concern the interests of many people. Digital security or what is often referred to as Cyber Security refers to a commitment to anticipate and prevent threats and disruptions from cyber which are now increasingly common. Following up on this, the Malang City Government through the Malang City Communication and Informatics Service (Diskominfo) built cooperation with the National Cyber and Crypto Agency (BSSN) by launching the Computer Security Incident Response Team (CSIRT) at the Malang Creative Center (MCC) Auditorium in November 2023. The formation of MalangKota-CSIRT is expected to create a safe and conducive cyberspace owned by the Malang

City Government. This security can certainly create public trust in using services. The security teams that are formed are basically directed to carry out cyber security supervision of electronic systems owned by the Malang City Government. Malang Kota-CSIRT will be the security force for all SPBE projects. Meanwhile, the National Cyber and Crypto Agency (BSSN) is focused on securing potential irresponsible parties who could threaten the security of the implementation of Smart Governance (Pemerintah Kota Malang, 2023). With more mature governance protection, it is hoped that there will be no more security threat problems considering that until the third quarter of 2023 there have been 37 cyber attacks that threaten the Malang City Government's electronic system. The existence of security will certainly be closely related to digital resilience. In this context, 'safe' means that the digital transformation carried out is ready for various disruptions and threats that can occur at any time. With adequate security support, the system that is built is equipped with the ability to anticipate, face, and recover.

If observed, the five supports become a vital series for the resilience and sustainability of SPBE. The government's ability to face various threats, challenges, and problems is greatly influenced by these supports. It should be emphasized that digital resilience is not only about security but also broadly includes a capacity for governance in facing and maintaining a system that has been built from various problems.

CONCLUSION

In conclusion, digital transformation through the implementation of an Electronic-Based Government System (SPBE) is a crucial step for the Malang City Government in responding to the needs and demands of the people of Malang City in the digital era. A series of strategic steps to ensure the resilience of digital transformation has been carried out considering that in the process various kinds of challenges, threats, and problems continue to arrive. The problem of SPBE system integration is addressed through policies in Malang Mayor Regulation No. 8 of 2023 concerning Electronic-Based Government Systems which regulates government governance in integrating digital systems to answer public complaints. In this process, there are 3 vital elements that interact with each other, namely institutions, human resources (HR), and also infrastructure. All three are inseparable and become an integral part in ensuring the development of SPBE can run optimally.

This commitment is also strengthened through careful governance and planning mechanisms. This can be proven through 4 aspects of strengthening which include strengthening policies, strengthening governance, strengthening management, and strengthening SPBE services. Each strengthening step has its own focal points and methods. But both challenge all the intellectual foundations of digital transformation resilience conservatively and reformatively through proactive innovation in governance and digital

resilience planning to encourage sustainability management and government preparedness. As a result, since 2023, the SPBE achievement index in Malang City has increased dramatically. This proves that the Malang City Government has sufficient capacity to ensure that digital transformation through SPBE continues to run dynamically so that it has resilience and sustainability. It should be noted that this achievement cannot be separated from the vital supports for the development and implementation of SPBE in Malang City including political support, budget support, infrastructure support, stakeholder support, and security support. The five supports are inseparable because when 1 aspect of support is weak, it is certain that the development of SPBE in Malang City will not run effectively and efficiently.

The achievement of SPBE governance in Malang City is indeed proud, but the government should not be complacent considering that from 2019 to 2022 the SPBE index achievement in Malang City has decreased every year. The problem of stalled and non-integrated applications must be taken into account and prevented from recurring. The strengthening agenda must be ensured to run with a strong database so that the policies produced are in accordance with the main objective of digital transformation, namely an impactful bureaucratic reform. Strengthening the governance series can also guarantee the resilience of digital transformation through proactive, dynamic, responsive and adaptive innovation. The government must underline that digital resilience is not only about security from cyber threats but is complexly related to the ability and capacity of government governance to face various challenges and problems in implementing SPBE that can threaten its sustainability. The Malang City Government also needs to continue to expand constructive communication and collaboration with internal and external stakeholders so that the government's preparedness is one step ahead of the problems that may still come. In addition, the government must really be able to overcome the challenges that still exist in the community, especially related to digital literacy, such as through periodic socialization that not only targets the public in certain groups but all elements of society.

REFERENCES

Alam, S., Anwar, A. F., Wahyuddin, A., Pada, A. T., & Hardianti, P. (2024). *Optimalisasi Kebijakan Smart Governance; Studi Peningkatan Efisiensi dan Kualitas Pelayanan Publik. 10*(2), 144–169. https://doi.org/10.21776/ub.transformative.2024.010.02.1

Aldi, B., Ananda, W., Kusuma, B., & Putra, A. (2024). Aksebilitas Dan Keterjangkauan Layanan Pada Mal Pelayanan Publik Kota Malang. *Transparansi/ : Jurnal Ilmiah Ilmu Administrasi*, *7*(1), 84–91. https://doi.org/10.31334/transparansi.v7i1.3891

Alfiyaturrahmah, A. (2023). Upaya Pengembangan Smart City Kota Malang Melalui Literasi Digital (Studi Kasus Di Dprd Malang/ : Ranperda Penyelenggara Perpustakaan). *Jurnal Darma Agung*, *31*(1), 111. https://doi.org/10.46930/ojsuda.v31i1.2826

Ardhia Rahmania, D., Farchan Agil, M., Siswanto, S. A., & Datumaya Wahyudi Sumari, A. (2022). Pemanfaatan Video Edukasi Untuk Meningkatkan Literasi Digital Masyarakat Pada E-Wallet Di Masa Pandemi. *Jurnal Mnemonic*, *5*(2), 136–144. https://doi.org/10.36040/mnemonic.v5i2.4825

Borucki, I., & Hartleb, F. (2023). Debating E-voting throughout Europe: constitutional structures, parties' concepts and Europeans' perceptions. *Frontiers in Political Science*, *5*. https://doi.org/10.3389/fpos.2023.982558

Congge, U., Guillamón, M. D., Nurmandi, A., Salahudin, & Sihidi, I. T. (2023). *Digital democracy: A systematic literature review*. Frontiers in Political Science. https://doi.org/10.3389/fpos.2023.972802

Creswell, J. W., & Poth, C. N. (2016). *Qualitative Inquiry and Research Design: Choosing Among Five Approaches*. SAGE Publication.

Devi, P., Muchsin, S., & Suyeno. (2021). Inovasi Program Pelayanan Publik Berbasis Digital Government (Studi Kasus pada Pengadilan Agama di Kota Malang). *Jurnal Respon Publik*, *15*(1), 32–40.

Diskominfo. (2023). *Tentang SPBE*. Pemerintah Kota Malang.

Doramia Lumbanraja, A. (2020). Urgensi Transformasi Pelayanan Publik melalui E-Government Pada New Normal dan Reformasi Regulasi Birokrasi. *Administrative Law and Governance Journal*, *3*(2), 220–231. https://doi.org/10.14710/alj.v3i2.220-231

Dorhot, N., Silitonga, S., Falahah, F., & Fajar, A. (2023). SEIKO/ : Journal of Management & Business Analisis dan Perancangan Arsitektur Enterprise Sistem Pemerintahan Berbasis Elektronik (SPBE) Pada Domain Bisnis di Lingkungan Badan Pengelola Keuangan Daerah (BPKD). *SEIKO/ : Journal of Management & Business*, *6*(1), 328–342.

Dyah Nawang Wulan, N., & Widodo, A. prasetyo. (2020). Strategi Pembangunan Dan Pengembangan Permukiman Dalam Penanganan Permukiman Kumuh Di Jawa Timur. *Jurnal Administrasi Politik Dan Sosial*, *1*(2), 84–98. https://doi.org/10.46730/japs.v1i2.24

Eruchalu, C. N., Pichardo, M. S., Bharadwaj, M., Rodriguez, C. B., Rodriguez, J. A., Bergmark, R. W., Bates, D. W., & Ortega, G. (2021). The Expanding Digital Divide: Digital Health Access Inequities during the COVID-19 Pandemic in New York City. *Journal of Urban Health*, *98*(2), 183–186. https://doi.org/10.1007/s11524-020-00508-9

Esiefarienrhe, B. M., & Mokeresete, M. (2022). Using Software Applications To Enhance E-Government Service Delivery In Botswana. *Journal of Information Systems and Informatics*, *4*(3), 495–510. https://doi.org/10.51519/journalisi.v4i3.262

Hadi, K., Asworo, L., & Sihidi, I. T. (2020). Inovasi Dialogis: Menuju Transformasi Pelayanan Publik yang Partisipatif (Kajian Sistem Pelayanan Malang Online). *Journal of Government Civil Society*, *3*(2), 117–128.

Hadiono, K., & Noor Santi, R. C. (2020). Menyongsong Transformasi Digital. *Proceeding Sendiu*, *July*, 978–979.

Hamdani, A. W., Budijanto, B., & Deffinika, I. (2023). Proyeksi pertumbuhan penduduk dan ketahanan pangan beras di Kota Malang Tahun 2020–2045. *Jurnal Integrasi Dan Harmoni Inovatif Ilmu-Ilmu Sosial*, *3*(7), 760–772. https://doi.org/10.17977/um063v3i7p760-772

Handayani, T. A. (2023). Dimensi Disposisi Atau Sikap Pelaksana Dalam Implementasi Kebijakan Sistem Kearsipan Dinamis Terintegrasi (Srikandi) Dalam Mendukung Sistem Pemerintahan Berbasis Elektronik. *Open Journal System*, *18*(1978), 867–875.

Hanita, M. (2023). Transformasi Ketahanan Wilayah pada Era Digital: Peran Kepemimpinan Digital dalam Membangun Smart City di Kota Pariaman Sumatera Barat. *Jurnal Ketahanan Nasional*, *29*(2), 199. https://doi.org/10.22146/jkn.86067

Kamil, M., Muhammad, R., Roziqin, A., Sari, A. E., & Kismartini. (2025). Examining Practice Smart City in Local Government: A Smart Governance Perspective. *International Journal of Sustainable Development and Planning*, *20*(2), 635–644. https://doi.org/10.18280/ijsdp.200214

Kraus, S., Jones, P., Kailer, N., Weinmann, A., Chaparro-Banegas, N., & Roig-Tierno, N. (2021). Digital Transformation: An Overview of the Current State of the Art of Research. *SAGE Open*, *11*(3). https://doi.org/10.1177/21582440211047576

Maharani, E. S., Fatima, S., Pratiwi, A., & Hayat. (2024). Strategi Pemerintah Kota Malang dalam Meningkatkan Kualitas Pelayanan Publik: Analisis Kritis dan Prospek Perbaikan. *Jurnal Adminstrative Science*, *5*(1), 71–84.

Malangposcomedia. (2025). *Mahasiswi Baru mulai Banjiri Kota Malang*. Malangposcomedia.

Marthaningrum, H., Dwi Herlambang, A., Hayuhardhika, W., & Putra, N. (2019). Evaluasi Pengelolaan Strategi dan Kerangka Kerja Teknologi Informasi pada Dinas Komunikasi dan Informatika Kota Malang Menggunakan COBIT 5. *Pengelolaan Strategi, COBIT*, *3*(10), 2548–2964.

Muliawaty, L., & Hendryawan, S. (2020). Peranan E-Government Dalam Pelayanan Publik (Studi Kasus: Mal Pelayanan Publik Kabupaten Sumedang). *Jurnal Ilmu Administrasi*, *11*(2), 101–112.

Niño-Sandoval, Y., Alvarez-Risco, A., Simbaqueba-Uribe, J., Del-Aguila-Arcentales, S., Villalobos-Alvarez, D., & Yañez, J. A. (2023). Processes of communication and dissemination of science: the challenges of science policy guidelines in Colombia. *Frontiers in Education*, *8*. https://doi.org/10.3389/feduc.2023.1184212

Pahrudin, Mustawa, A., Nugroho, R., & Halim, A. (2022). The Implementation of Pertisun as A Policy Innovation in Absorbing Public Aspirations in Merangin Regency Pahrudin. *Joirnal of Government Civil Society*.

Pemerintah Kota Malang. (2022). *Kuatkan Implementasi e-Government, Diskominfo Gelar Workshop Movev SPBE*. Pemerintah Kota Malang.

Pemerintah Kota Malang. (2023a). *Diskominfo Gelar FGD Penyusunan Arsitektur dan Peta Rencana SPBE*. Pemerintah Kota Malang.

Pemerintah Kota Malang. (2023b). *Wujud Komitmen Perlindungan Siber, Pemkot Malang Luncurkan MalangKota-CSIRT*. Pemerintah Kota Malang.

Pemerintah Kota Malang. (2024a). *Desk Penyelarasan Anggaran SPBE dalam Rancangan Rencana Kerja Perangkat Daerah tahun 2025*. SPBE Kota Malang.

Pemerintah Kota Malang. (2024b). *Kota Malang 10 Terbaik Nasional Digital Government Award 2024*. Pemerintah Kota Malang.

Pemerintah Kota Malang. (2024c). *Malang City SPBE Evaluation 2024 Enters Interview Assessment Stage*. Pemerinath Kota Malang.

Pemerintah Kota Malang. (2024d). *Optimalkan Layanan Digital, Puluhan Aplikasi Daerah Segera Dinonaktifkan*. Pemerintah Kota Malang.

Prasetyo, R. A. (2024). *Stakeholder Analysis dalam Pelaksanaan Pemerintahan Berbasis Elektronik di Kota Malang*. Universitas Muhammadiyah Malang.

Putra, B. K., Dewi, R. M., Fadilah, Y. H., & Roziqin, A. (2021). Reformasi Birokrasi dalam Pelayanan Mobile JKN di Kota Malang. *Jurnal Ilmiah Publika*, *9*(1), 1–13.

Ratnasari, M. O. B., Noor, I., & Hidayati, F. (2022). Analisis Pengembangan E-Government pada Layanan Administrasi Pemerintahan (Studi pada "SURADI" di Dinas Komunikasi dan Informasi Kota Malang). *Jurnal Ilmiah Administrasi Publik*, *008*(01), 35–44. https://doi.org/10.21776/ub.jiap.2022.008.01.4

Rothrock, R. (2018a). *Digital Resilience: Is Your Company Ready for the Next Cyber Threat?* American Management Association.

Rothrock, R. (2018b). *Five Tips For Building Digital Resilience Into Your Business Plan*. Chiefexecutive.

Roziqin, A., Kamil, M., Romadhan, A. A., & Zakaria, I. (2024). The dark side of local public sector innovation: insights from SAMPADE innovation. *Journal of Science and Technology Policy Management*.

Roziqin, A., Nurjaman, A., & Hijri, Y. S. (2024). *Public sector innovation of local government to mitigate violence against women and childresn in Pasuruan Regency*.

Muhammad Kamil, Ayu Evita Sari, Rifki Muhammad

Seta, H. J., Suharto, D. G., Setyowat, K., & I. (2023). Digitalization: Innovation in Public Services (Case Study Implementation of the Complaints Service Unit in Surakarta (ULAS) and Klaten Regency Industry and Manpower Office). *Journal of Government Civil Society*, *3*(September).

Sulistyaningsih, T., Pamungkas, M. Y. P., Maulana, I. D., & Nurjaman, A. (2020). *The Implementation of Collaborative Urban Governance in City Without Slums Program (Kotaku) in Pasuruan, Indonesia*. *436*, 824–827. https://doi.org/10.2991/assehr.k.200529.174

Tajuddin, M., & Maulachela, A. B. (2021). Integrasi Dan Interpoerabilitas Peta Jalan Sistem Pemerintahan Berbasis Elektronik (Spbe) Menggunakan Federal Enterprise …. *Seminar Nasional Sistem ….*

Vlad, T., Hinea, C., Neamu, B., & Stănică, V. (2023). Impact, Utilization and Applications of Digital Media for Government in Rural Settings. A Comparative US-Romania Research. *Transylvanian Review of Administrative Sciences*, *2023*(70), 128–155. https://doi.org/10.24193/tras.70E.7

Wijaya, R. (2024). *Komitmen Terapkan SPBE, Kota Malang Raih DGA 2024 untuk Pertama Kalinya*. Jatimtimes.

Zubaidah, E., Nurmandi, A., Pribadi, U., Hidayati, M., & Lubis, E. F. (2022). The Factors Influencing the Community to Use E-Service in Pekanbaru City , Indonesia. *International …*, *209*(Iconpo 2021), 310–318. https://www.semanticscholar.org/paper/3f558d1fd614a610c289f3b7d7533803baa7beb7