Process, Integration, and Impact of Digital Public Service Policy Innovation on Public Sector Organizations

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Abstract
This study aims to discuss the innovation of digital public service policies based on the process, integration, and impact on public sector organizations, namely village governments. The research locus was Kubang Jaya Village, Serang Regency. This research applied a qualitative case study approach. Data collection technique was interviews with eight informants consisting of units in village government officials and the community. Data analysis was carried out by proposing patterns, categories, and themes from the bottom up (inductive). The results point out that digital public service policy innovations in Kubang Jaya Village Government have been running quite effectively, especially in service policy innovation that is proven to have specific impacts. However, in the context of its integration, it is still not fully effective due to the community’s inadequate response in accepting service changes, the low level of education, and the lack of public knowledge about technology. These findings encourage higher public participation in committing digital service innovations and adaptive policy to respond to citizens' low digital literacy.

Keywords
Policy Innovation; Public Service; Digital

INTRODUCTION
Innovation always accommodates changes and challenges for every organization to adapt to various situations. Therefore, local government public policy’s ability to utilize people’s instruments, processes, and technology is exceptionally notable (Orange et al., 2013). People’s participation is also needed here to encourage the success of policy innovation (Anttiroiko, 2016; Davis et al., 2019). In this case, innovation is promoted by individuals dealing with cooperation as a response to the organization’s needs (Notarnicola et al., 2020).

In broad scope, public administration innovation enables the achievement of higher development goals, precisely economic benefits, poverty reduction, institutional alignment, and stability (Batalli, 2011). According to Sengupta (2014), innovation is an idea, practice, or object considered new by individuals or other adoption units through technology. Understanding of innovation in public sector organizations is remarkably varied, such as new ways of managing organizations (for instance, public-private partnerships), new ways of rewarding people (for instance, performance-related pay), or new ways of communicating (for example, through ministry blogs). A distinction is sometimes made between service innovation and policy innovation (Mulgan, 2014).
Policy innovation is regarded as an instrument to produce a particular dynamic policy. It is in line with the aim of innovation, namely to overcome increasing budgetary pressures through more efficient administration or service, and new societal demands, through different and more effective service designs (Rivera León et al., 2012). Hence, Witell et al. (2016) explain that innovation can incorporate new combinations of existing resources and refer to the process of developing new services, such as the concept of digitization. The transformation of public services must move towards digitization (Scupola & Zanfei, 2016).

According to Potts & Kastelle (2010), the encouragement of innovation in public sector organizations has three fundamental reasons, namely: 1) to influence productivity growth by reducing costs and increasing product value, 2) to encourage adaptive policies to global economic conditions, and 3) to set rules for private sector innovation. Besides, public sector innovation must seriously focus on four characteristics of innovation, namely 1) type of support, 2) management of innovation, 3) types and characteristics, and 4) characteristics in the application of the values (Navarro, 2016). This way, the innovations can improve public management, determine the conditions for implementing public policies, reduce deficiencies, and support economic growth (Batalli, 2011).

However, challenges and obstacles in implementing policy innovation and digital service in village government are still often found. Those are the low level of a public response to receiving service change, educational background, and public knowledge on technology. Therefore, multiple synergic efforts should be taken by stakeholders there to encourage the success of policy innovation and digital service. This phenomenon is also found in this study locus, namely at Kubang Jaya Village, Serang Regency.

Several studies on policy innovations and digital public services in local contexts have been carried out. Sofianto (2019) examined digital-based government innovation and found out that the created applications implemented strictly with regional leadership policies can change how things work. However, it has not been able to entirely alter the mindset directly correlated with work culture, an influential factor in bureaucratic reform. Tasyah et al. (2021) state that digital-based public services are to overcome the limitations of public services to prevent the spread of Covid-19. Thus, digital innovation is urgently needed to form an effective and efficient bureaucracy. Furthermore, Nurmandi (2006) mentions that innovation in public sector organizations can be done based on the implementation of knowledge management. Then, Pramusinto (2006) says that some regions have successfully applied public service innovations to encourage local economic development.

Scholars have also massively done studies on policy innovations and digital public services in global contexts. Policy innovation is vital in public administration, organization and management, public services, and sustainable development (Berry, 1994; Berry & Berry, 1990; Dezhina, 2017; Ezell & Atkinson, 2010; Song et al., 2021). It is also correlated with digital public services in public sector organizations (Arsneault, 2000; Hodge & Mccallum, 2017; Matei & Bujac, 2016; Melton & Hartline, 2013; Vries et al., 2014).

Based on the preceding descriptions of previous studies, it can be concluded that policy innovation and public services continuously develop following changes in
internal organizations and the demands of the dynamics of society. However, research on policy innovation integrated with digital services has not been conducted in depth. Therefore, this study proposes to discuss the innovation of digital public service policies based on the process, integration, and impact on public sector organizations, namely the government of Kubang Jaya Village, Serang Regency.

LITERATURE REVIEW

Literature on policy innovation has tried to explain how and why various new ideas and programs are adopted and distributed in the public sector (Berman & Martin, 1992; Berry & Berry, 1990; Gray, 1973; Walker, 1969). The term “innovation” is broadly interpreted as a new development, product, or organization improvement process. Its form always tends to reduce costs or assist the institution in expanding market demands (Sengupta, 2014). It is likely similar to another definition, stating that “innovation” is a set of new ideas and practices (Mulgan & Albury, 2003).

Generally, based on the Regulation of the Minister of Home Affairs of the Republic of Indonesia Number 2 of 2017 on Minimum Standards of Village Service, the provisions regarding the type and quality of services which are village affairs that are entitled to be obtained by every village community at a minimum are the provision and dissemination of service information, data and information population and land affairs, issuance of certificates, simplification of services, and public complaints. Public services in the administration of village governance consist of administrative and non-administrative services. Administrative services include: 1) general administration; 2) population administration; 3) financial administration; 4) development administration; 5) administration of the Village Consultative Body (BPD); and 6) other administration. Meanwhile, non-administrative services include community empowerment programs such as Desa Siaga, Children’s Education Park, Savings and Loans for rural communities, community institutions such as Youth Organizations and Farmers’ Groups, Poskanling (village watch post), and Posyandu (Integrated Service Post).

Innovation, as a radical change in public administration, is defined as a new process, technology, production, and introduction to the latest values in public administration (Rocha & Zavale, 2021). This is correlated with the primary role of innovation in encouraging growth and competitiveness (Ezell & Atkinson, 2010). Therefore, public sector organizations must embody innovations in strengthening services that might result in public satisfaction, primary contribution to the country, and individual welfare (Windrum & Koch, 2008). Government/service officers play the most important role in promoting and motivating their staff, typically in terms of sharing knowledge and creating harmony culture in the organization. Both are essential to developing innovation to achieve competitive benefits.

The approach to analyzing policy innovations and public services is proposed by Coombs & Miles (2000), consisting of its concept, definition, location, organization, and impact. In this case, the service innovation paradigm is no longer seen as a product of technology but can also include changes in relations with the community. A set of criteria progressively measures the performance of public service innovation to improve the village government’s public service strategy. Furthermore, Den Hertog & De Jong (2007) state that service innovation includes four dimensions, namely the concept of giving service (critical characteristics of services), the idea of facing society (the way people participate
in service design, production, and consumption), service delivery systems (e.g., traditional vs. electronics), and technology.

Based on the preceding description, it can be explained that the measurement of the performance of digital public service policy innovation consists of various aspects, namely the service process, integration, and impact of service innovation on the community. These three are the intentional application in a role, group, or organization of ideas, processes, products or procedures, and new units designed to significantly benefit individuals, organizations, groups, or the wider community (Osborne & Brown, 2013).

**Figure 1.** Performance Measurement of Service Policy Innovation (Source: Adaptation from Coombs & Miles (2000), Den Hertog & De Jong (2007), and Osborne & Brown (2013)).

**RESEARCH METHOD**

This research uses a case study qualitative approach. The method was chosen to understand complex social phenomena through the main research question, namely policy (Yin, 2014). This research was specifically conducted to understand digital public service policy innovations in public sector organizations. This process was regarded as a social construction of stakeholders in the dynamics and innovation of digital public service policies in Kubang Jaya Village, Serang Regency, Banten Province. The interaction approach could not be explored using survey instruments (Merriam, 2009). The data collection technique utilized interviews with eight informants from village government officials and the community. The research was conducted for three months, namely from August-October 2021. Data analysis was carried out by proposing patterns, categories, and themes from the bottom up (inductive).

**FINDINGS AND DISCUSSION**

**Process of Service Policy Innovation**

Law No. 6 of 2014 on Village is a substantial and fundamental regulation in managing village governance. Its substance contains high values of good governance and local democracy. One of the strategies by local government is stating village funds to fulfill the rights and obligations. Furthermore, the mandate of law on article 24 states that village governance includes: legal certainty, orderly administration of government, tidy public interest, openness, proportionality, professionalism, accountability, effectiveness and efficiency, participatory, and so on. Thus, the upper government must encourage the village government’s capacity so that the law’s mandate can be appropriately implemented.

The village law substantially states that the village has the right to regulate and manage the interests of the community, establish and manage village institutions, and obtain sources of income. In paragraph (2), it is explicitly stated that the village’s obligations consist of: a) protecting and maintaining the unity, integrity, and harmony of the village community in the context of national harmony and the integrity of the Unitary State of the Republic of Indonesia; b) improve the quality of village communities, c) develop democratic
life, d) encourage village community empowerment, and e) provide and improve services to rural communities. However, along with the massive breakthrough through the implementation of the village law, the government also has a lot of tasks in hand considering the potential problems and failures of the village government, which are generally still poor in public service issues.

Based on the observations, the service policy innovation process in Kubang Jaya Village is described through the population administration services process. It can be seen through two stages, namely socialization and implementation. Socialization is a process in which all village government instruments socialize the specific service innovations. Meanwhile, implementation is the realization of service innovation—which must benefit the people.

The public policy innovation process results can be seen in Informant R’s statement, a State Civil Apparatus (ASN) in Kubang Jaya Village.

“To support the achievement of service innovation performance in village government, multiple efforts were carried out by the village government such as capacity building for village government officials, evaluation of village government apparatus performance, data collection and utilization of village profiles, evaluation of village development levels, development of village administration management, assistance of village assets the arrangement, and empowerment of rural communities”, (Interview, 7 August 2021).

In addition, Informant M (a citizen of Kubang Jaya) explained the process of public service policy innovation as follows.

“We basically support every single service innovation in the village, though it is not yet optimal due to the limited innovation. In population administration, for instance, we try to continue working with many parties so that the process goes easy for our community”, (Interview, 7 August 2021).

Based on the interviews, the socialization process in the population administration services in Kubang Jaya has been done by the local village apparatus as stated by
Informant C, one of the state civil servants there. His description is as follows.

“The socialization has been done to residents regarding innovations in population data collection services. This was carried, for instance, through home visits. It is one of our jobs to provide information to the public. We try to make it easier for people to understand and implement it so the program can succeed”, (Interview, 7 August 2021).

After that, the researchers observed the existing village population administration. Based on the service policy innovation perspective, the results show that the service process has been assisted by an electronic-based system (see Figure 2).

Figure 2 shows the population service innovation created by the Kubang Jaya Village apparatus. It also demonstrates that innovation is a dynamic process that changes the entire governance architecture, identifies problems and challenges, develops new and creative methods, and selects and implements new solutions. Thus generally, the significant characteristics of innovation coincide with the reform process (Matei & Bujac, 2016). This implies a consequence that an important factor in promoting innovation is boosting a creative mindset. This is because the innovation process notably improves the efficiency of the public sector and provides quality and competitive public services.

The researcher interviewed Informant D, one of the officials from Kubang Jaya Village, about the electronic-based innovation regarding the population administration services. His description is as follows. Figure 2 describes the flow of getting population administration services through SMS/e-mail.

“Various population administration services such as disposing cover letters for creating KTP and KK, Certificate of Disability, Birth Certificate Cover Letter, Death Certificate Cover Letter, and so on, Kubang Jaya has used an electronic-based public administration service application though it is still quite simple. Those who need a certificate and so on can just send a SMS/e-mail to us and attach the NIK and their needs. The village operator will soon follow up on the request. This way, people just have to come to the village office to take the letter immediately”, (Interview, 11 September 2021).

Based on the interview, it can be stated that Kubang Jaya Village has implemented a simple population administration service innovation even though it still needs to be developed. The initiative of the village apparatus to create a population administration service application aims to provide convenience to the community and in an effort to build effective and efficient village governance. This application can be used by the community without using the internet and can be directly accessed by village operators for follow-up.

The results point out that the service policy innovation process has been carried out effectively. This condition indicates the connection between governance and public services in a specific domain. Innovation often successfully includes new relationships between regulators and service targets (Hartley, 2005). On the other hand, the well-established community welfare perspective in creation is an essential concern, typically in dealing with risks and potential failures (Arsneault, 2000).

Eventually, it can be concluded that the recent results are in line with a study by Nurmandi (2006), stating that innovation in public sector organizations can be carried out based on implementing knowledge
management. It also follows the study by Pramusinto (2006), explaining that several regions have successfully implemented public service innovations for local economic development.

**Integration of Service Policy Innovation**

Article 7 Paragraph (1) letter f No. 24 of 2013 on Amendments to Law No. 23 of 2006 On Population Administration states: Regency/city governments are obliged and responsible for carrying out Population Administration affairs, which are carried out by regents/mayors, with authority including assignment to villages to hold part of Population Administration affairs based on the principle of co-administration. Therefore, public service information disclosure is applied in all village areas according to Article 6 Paragraph 2 of the Regulation of Home Affairs Ministry No. 2 of 2017. It powerfully urges information disclosure to encourage participative and communicative rural communities. This is in line with the integration of public service innovation elements, namely communicative, open, and integrated with the community knowledge.

Based on the interview with Informant S—a village apparatus in Kubang Jaya, it was found that the population administration service is based on the communicative principle. Below is a quotation from the interview.

“The population data collection service through e-KTP recording was implemented on communicative and participative principles. It is communicative since the village apparatus has divided the e-KTP recording schedule based on the date of birth and the recapitulation so that people can quickly come to the village office without doubt or long queues. And, it is participative since they have already had the awareness to go to the village office voluntarily”, (Interview, 21 November 2021).

The preceding statement is in line with Information Z’s (also a village apparatus) as follows.

“We definitely try to communicate with people interactively. We don’t want that the innovation is only by the village apparatus to know about this innovation. Instead, it is basically for the community—to facilitate them as the program is implemented. By understanding the innovation, they can save time and energy. The point is that we once again always try to communicate it continuously”, (Interview, 21 November 2021).

Based on the observations, the form of communication was carried out by holding information media in collaboration with sub-districts and regencies. It was said by Informant G that information on public complaints is integrated with the village and community.

“It is true that we, together with various parties in the village, coordinate in facilitating a public complaint media. However, the community response is still relatively low since they are not yet fully participated in proposing digital service innovation. We will use different approaches to run the media more effectively”, (Interview, 21 November 2021).

Furthermore, the researchers conducted field research observations to ensure the integration aspect of population administration service innovations, especially related to the knowledge possessed by the community in accessing service innovations. The results point out that most research subjects have a primary educational level, namely elementary
school (or equivalent). Therefore, the integration of service policy innovations based on the conditions and needs of the community has not been running effectively.

This shows that digital service policy innovation has not been supported by four characteristics of innovation, namely 1) type of support, 2) innovation management, 3) types and characteristics, and 4) characteristics in the application of the value (Navarro, 2016). The same situation goes on the four dimensions, namely the concept of service (critical service characteristics), the concept of facing society (the way people participate in service design, production and consumption), service delivery systems (e.g. traditional vs. electronics), and technology (Den Hertog & De Jong, 2007). Thus, the public sector service as a deliberate application in a role, group, or organization of ideas, processes, products, or procedures, new units, which are designed to benefit individuals significantly, organizations, groups, or the wider community has not yet run effectively (Osborne & Brown, 2013).

Based on the preceding descriptions, it might be concluded that the service integration aspect has not been fully practical. In this case, the service policy innovations have not been integrated with the knowledge possessed by the community. The low level of education, public knowledge, and ineffective community participation are two main obstacles. This is in accordance with research by Irani et al. (2007), stating that local or village governments need extraordinary knowledge to manage constant change and create flexible and adaptable systems in terms of policy innovation. It also follows the statement by Dezhina (2017) (Dezhina, 2017), saying that government-centered instruments must be supported by the knowledge that not only contributes to economic growth through technological novelty but also has an impact on culture, education, and society in a broader context. In this case, the performance of service policy innovation should ideally be combined with knowledge sharing from the community and village officials. This way, it impacts the performance of the village government (Melton & Hartline, 2013).

Impact of Service Policy Innovation

Service innovations that provide social, cultural, and economic benefits for the community are indicators of the success of population administration and land agriculture. Based on the interviews, the population administration innovations in Kubang Jaya Village positively impact the community. Informant P (a villager) explained as follows.

“The service via SMS and e-mail for making residence documents is helpful for us as villagers. It can be accessed quite fast; no need to wait long at the village office. We just need to send an SMS today, and tomorrow morning we will just come and get the letter straight away from the village apparatus”, (Interview, 8 August 2021).

Based on the initial interview, it can be said that the community can utilize the innovation of population administration services through SMS and e-mail applications. It is straightforward because it only needs cell phones as a medium between residents and village officials. However, not all people can access this digital application service, as stated by Informant G.

“Not all residents can access it because there are elderly and technologically
illiterate people. They are mostly over 50 years old, and thus this is indeed an obstacle”, (Interview, 8 August 2021).

Based on the recent results, it can be concluded that the impact of service policy innovation has been practical, although it still has to continue to develop innovations, especially giving priority services to the elderly or carrying out an adaptive process. This is confirmed by research by Rocha & Zavale (2021), explaining the concept of innovation as a radical change in public administration. Innovation is defined as a new process, technology, product creation, and the introduction of specific values in public administration. It has become a key driver of growth and competitiveness (Ezell & Atkinson, 2010). Therefore, it is important for public sector organizations to carry out various innovations in supporting services that can provide satisfaction for the community, contribution to national growth, and welfare of individual citizens (Windrum & Koch, 2008).

It can be stated that service providers play the most important role in promoting and motivating their staff, typically in terms of sharing knowledge and creating harmony culture in the organization. In addition, it is essential to look at the relationship of change with the community in improving the village government's public service strategy (Coombs & Miles, 2000). It is also notable for optimizing the concept of service (critical service characteristics), the concept of dealing with the community (the way the community participates in service design, production, and consumption), service delivery systems (eg traditional vs. electronic), and technology (Den Hertog & De Jong, 2007).

CONCLUSION

The digital public service policy innovation in Kubang Jaya Village has been running quite effectively, specifically in terms of the process and impact of service policy innovation. However, its integration is not yet fully effective due to the low level of community response in accepting the change, educational level, and knowledge of technology.

Another conclusion is that although the process, integration, and impact of service policy innovation cannot be theoretically separated in terms of research analysis, the three have different dynamic implications. The findings demonstrate the need to encourage community participation in formulating digital service policy innovations and the need for adaptive policies to respond to the problems of citizens with low ability with digital technology.

Research Limitations

This study has several limitations, one of which is the limited variables, namely only the process, integration, and impact of digital public service policy innovation. Several issues such as digital governance, digitalization-based public policies, and public service relations in a government perspective have not been studied in depth. Therefore, encouraging and focusing further research using a more comprehensive approach can be carried out. Various aspects of data collection instruments are also essential so that data analysis and research objectives can contribute to sharing new knowledge more effectively and impact people’s welfare.

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