Citizen Data Integration as the Backbone of Law Enforcement Implementation in Indonesia

Rudi Priyosantoso; Muhamad Erza Aminanto; Firman Fadilah

Faculty of Law, Universitas Indonesia, Indonesia

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Abstract

The characteristics of Indonesia's geographical area and the large population of Indonesia has cause citizen data integration to be an urgency and as a major prerequisite for law enforcement activities, especially in the current era of information technology. This paper aims to review the importance of citizen data integration in law enforcement efforts in Indonesia. This paper was developed using the literature review method, which reviews various books, research articles, journals and documents related to research. The data that has been collected is then analyzed descriptively. The results of the study indicate that the lack of resources, changes in the scope of law enforcement, and information that is not integrated are the main challenges of law enforcement today. Citizen data integration is carried out to provide data uniformity. Integrated citizen data can also accelerate the law enforcement process, develop prevention strategies, support the transformation to digital policing and increase law enforcement efficiency. Therefore, it is necessary to integrate citizen data nationally that combines census data, e-KTP, BPJS, and so on. There is also a need for coordination between institutions and the development of big data infrastructure, as well as professionalism in the use of data.

Keywords: Citizen Data; Data Integration; Law Enforcement; Policing

Introduction

Indonesia is the largest archipelago country in the world with 17,504 islands under its authority (Listiyono, Prakoso, & Sianturi, 2021). This then causes Indonesia to have a land area of 1,922,570 km² and a water area of 3,257,483 km² (Hutagalung, 2017). The wide and diverse geographical conditions have provided advantages such as the existence of cultural diversity in various regions in Indonesia. In addition, Indonesia is also awarded by the diversity of biodiversity due to its location in the tropics with around 17,500 islands with a coastline of about 95,181 km (Kusmana & Hikmat, 2015).

In terms of population, Indonesia's population is the fourth largest in the world. Based on data from the Central Statistics Agency (BPS) at 2021 the total population of Indonesia has reached 271 million people. This provides good opportunities for development in Indonesia due to the demographic bonus with a higher proportion of the productive population. The government should be able to make good use of this benefit.
On the other hand, the vast territory and massive population have provided its own challenges for Indonesia. There is an uneven pattern of population distribution which then becomes one of the obstacles in efforts to evenly distribute regional development. In line with this, the area factor is considered to be able to influence the objectives of regional autonomy because the wider the autonomous region, the more inefficient local government public services will be (Hermantyo, 2007). On the other hand, this can also hamper law enforcement efforts, especially since the area has increased the complexity of law enforcement. This is also related to the unavailability of citizen data that can be used to facilitate the investigation process.

In the context of law enforcement and crime prevention, citizen data is useful to make it easier to track criminals, prevent trafficking in persons and prevent the sending of illegal workers (Hastuti, 2020). Therefore, up-to-date and accurate citizen data is needed to support law enforcement in Indonesia, one of which can be achieved by integrating citizen data. In the context of public services, citizen data integration is related to "efforts in optimizing services and making a service effective and efficient as one of the points in achieving the practice of electronic government" (Ristiandy, 2021, p. 89).

Citizen data that is not integrated has caused significant obstacles in law enforcement efforts in Indonesia. This is also accompanied by the number of crimes that are growing and expanding nationally. Various types of crimes such as cyber crime, terrorism, human trafficking, corruption and so on are difficult to detect and resolve quickly due to weak citizen records. One of these things can be seen from the duplication of population identity carried out by criminals or by fraudulent business actors as a result of the unintegrated citizen data as a whole. In fact, the good integration of citizen data in advanced countries such as the UK and the United States has helped encourage law enforcement efforts by making it easier to track a person's whereabouts (Bastianon, Santoso, Gueci, Setiawan, & Darusman, 2020).

This shows the importance of efforts to integrate citizen data in Indonesia. This mainly refers to the characteristics of Indonesia's geographical area and the large population of Indonesia, making the integration of citizen data an urgency as a major prerequisite for law enforcement activities, especially in the current era of information technology. This article aims to review the importance of citizen data integration in law enforcement efforts in Indonesia. This article is expected to contribute to the literature on law enforcement in Indonesia by emphasizing the importance of utilizing integrated citizen data and the use of information technology in an effort to enforce law more effectively and efficiently.

Research Methods

This article was developed using the literature review method. Literature review is a method for analyzing various relevant articles and focusing on research problems. This is related to "scientific studies that focus on one particular topic" (Cahyono, Sutomo, & Hartono, 2019). This is done by collecting data from various books, research articles, journals and documents related to research. The information that has been obtained is then sorted and then analyzed. The analysis was carried out descriptively on the findings of previous studies and related to the current research.

Discussion

Law enforcement

Law is a necessary part of a society, so it is present in every society. This causes the law to have an universal nature and cannot be separated from society so that law and society will have a form of reciprocal relationship (Harefa, 2019). But then, the law will be meaningless without effective law enforcement. Law enforcement is related to the efforts made so that the legal norms that have been made can function significantly as behavioral guidelines in various aspects including legal relations in social and state life (Moho, 2019).
Law enforcement then becomes a necessity by the state as part of efforts to protect its citizens. This is because law enforcement is an effort to uphold the values of truth and justice carried out in an effort to combat crime (Ariyanti, 2019). Concrete efforts in law enforcement can then be seen from the application of positive law in legal practice that should be obeyed. Therefore, law enforcement can be understood as an effort to realize legal ideas and concepts into a reality in society (Ningrum, 2020).

Law enforcement itself aims to realize what the law wants to achieve, namely the achievement of justice in the community (Agiyanto, 2018). Law enforcement has guaranteed legal certainty, order and legal protection. This can happen when there is harmony, balance, and harmony between civil morality based on actual values in a civilized society (Ningrum, 2020). Therefore, law enforcement then requires a high level of seriousness, as well as commitment and enthusiasm for upholding complete justice (Ashshidiqqi, 2020). This needs to be done to ensure the passage of law in a country, especially in achieving justice in society.

**Law Enforcement Challenge**

Law enforcement is not an easy job. This is accompanied by globalization and technological developments and then facing new challenges that have never been found before. Even so, law enforcement efforts must continue to be carried out optimally to ensure that the state continues to stand tall based on the law. This is because the absence or inadequate law enforcement will have a bad influence on the credibility of rule makers, rule implementers and the community affected by the rules themselves, so that all elements will be affected (Utari & Arifin, 2020).

At the same time, developments in society have led to demands for the police to be able to protect and serve the community as well as law enforcers. This presents a great responsibility for the police, especially to gain the trust of the public who demand communication and social contact (Sukmana & Indarto, 2018). Law enforcement by the police then also received demands to be reactive to the problems of criminal acts that exist in the community. This is part of the contemporary challenge for the police today to be able to provide full, proactive and reactive services to various criminal acts in society (Rusmini, 2021).

The demand to be proactive in responding to complaints and problems of criminal acts in the community has arisen in various law enforcement agencies today. To be a proactive police officer, the police must be able to respond to various calls for help from the community. This service model is built based on the needs of each community and focuses on short-term responses, which in turn lead to the depletion of already limited resources. This also hinders long-term strategic approaches to solving crime problems in society. This need-driven reactive approach stems from the various challenges facing law enforcement entities. There are several challenges that arise, namely:

a. **Lack of resources**

The pandemic has caused a global economic recession. This also has an impact on law enforcement agencies. Law enforcement agencies in various parts of the world have been forced to reduce the number of law enforcement personnel. This is further exacerbated by a reduction in the tax-sourced budget, which is an important resource for procuring equipment, training, and law enforcement services (SAS, 2021). In Indonesia alone, in 2021 the National Police budget has been cut by Rp. 5.51 trillion from the budget allocation of Rp. 112.1 trillion (Hamdani, 2021). This is done to finance vaccination funds, health care, and other urgent needs in the national economic recovery (Victoria, 2021). As expected, this then limits the ability of the National Police to finance the procurement of equipment, training, and law enforcement services.
b. Changes in the scope of law enforcement

Globalization and the use of information and communication technologies have led to changes in the criminal environment. This has led to demands, both nationally and locally, for the government to increase the number and type of complexity of law enforcement personnel, from patrol officers to police chief executives (SAS, 2021). This then causes the need for an increase in the quantity and quality of law enforcement in Indonesia.

The latest data obtained in 2019 shows the number of police officers in Indonesia is 470,391 personnel throughout Indonesia (CNN Indonesia, 2020). This number, at first glance, shows a massive number, but then when reviewed, this number has not been able to meet the ideal ratio of the number of police personnel when compared to the number of people. The ideal ratio of police to society is 1:350 (Movani, 2017). This then shows that the quantity of police officers is still not able to meet the ideal dose.

On the other hand, there are demands to continuously improve the quality of law enforcement by these police officers. Based on research results and the 2017 World Internal Security & Police Index (WISPI) ranking issued by the International Police Science Association (IPSA), Indonesian police organizations are in the bottom half of the total 127 police institutions assessed (Hasan, 2018). This shows that international organizations' assessments of the capacity, process, legitimacy and outcomes of policing activities in Indonesia are still low. The domestic assessment itself, also shows things that are not much different. Based on reports obtained by the Ombudsman regarding public reports regarding law enforcement agencies throughout 2020, the police is the institution that ranks first with 699 reports (Melia & Rahayu, 2021). The high number of reports to the Ombudsman regarding the police then shows that this institution is still considered unable to carry out its duties properly by the community. This then leads to the community's assessment of the quality of law enforcement being carried out by the police which is still low.

c. Unintegrated information

Advances in information technology have encouraged its use in various aspects of life, including law enforcement. But then the problem arises is that law enforcement agencies often do not have the necessary skills, time and/or technology to gather operationally relevant intelligence from a wide range of internal and external data sources. Without the ability to take advantage of this and get a broader picture from the available information, law enforcement agencies may miss important information that can be used in solving criminal offenses (SAS, 2021). This then provides the importance of utilizing integrated information technology to be utilized in law enforcement efforts.

Data integration in law enforcement efforts is beneficial by encouraging good communication and coordination between law enforcement agencies and can improve the data sharing process in handling various criminal acts. Data integration in law enforcement in Indonesia has begun by integrating correctional institutions, police, prosecutors and courts (Kemenhukam, 2019). However, then in this context, efforts to integrate data in solving criminal cases, while in efforts to prevent crime and detect crime there have been no efforts made by the police and related institutions, the Population Board, to integrate citizen data. In fact, good integration of citizen data has proven useful in law enforcement efforts by making it easier to track the whereabouts of criminals (Bastianon, Santos, Gueci, Setiawan, & Darusman, 2020).

**Integrating as Future Policing**

Data is a crucial part of the decision-making process. Data is even seen as 'oxygen' in the decision-making process and is considered to have the potential to work even better when integrated with other data (Kennedy, 2020). Therefore, data-driven evolution can lead organizations to modify...
the practices within the organization to give the organization a competitive advantage in all its practices (Ballou, Heitger, & Stoel, 2018). In law enforcement, this will assist in increasing the effectiveness of crime prevention, crime detection and investigation efforts. Lack of data integration can lead to data inconsistency and adversely affect decision making (Santos, et al., 2018).

### a. Data Uniformity

It is common knowledge that in Indonesia, one person can have more than one ID card, so that one individual can have a different identity, age falsification, and so on. This became a major problem in the integration of citizen data and civil registration that occurred in Indonesia, namely the discovery of multiple citizen data (Yunita, 2017). This then causes problems, especially the existence of a uniform database which then causes the citizen reports to be less accurate to be used in law enforcement. Low data quality in the presence of such data errors will have significant implications in the policing process. Poor data quality means wrong decision making. When an officer enters the same data repeatedly into multiple systems, the potential for errors in the date entry will increase (Cotter, 2018).

### b. Integrated Citizen Data Accelerates Law Enforcement Process

The integrated database allows law enforcement to conduct a fast response to the handling of criminal acts in the community. Li and Radke (2012) have developed the integration and modeling of geospatial data for urban environmental crime investigations, which was carried out using the framework presented in picture 1. It illustrates the utilization of available raw data, such as crime statistics, socioeconomic composition, residential neighborhood stability, age composition, and so on with urban environmental geospatial data. As a result, this can be used to predict crime in the community and then be used to increase the level of police response to crime events in the community. Utilization of this geospatial data makes it easier to find out which areas have a greater potential for criminal acts than others.

### c. Prevention Strategy with Data History

Data history allows the Police to predict, track the movement of terrorism, and transnational crimes. In today's internet era, information related to crime is spread from various sources, including news media, social networks, blogs, and video repositories, and so on. The data collected from these various sources can be aggregated and integrated to track criminal entities, including terrorism crimes. Historical data from past crimes can also be a knowledge base for law enforcement agencies to analyze and prevent criminal activities (Srinivasa & Thilagam, 2019). Utilization of data in crime management, crime prevention, and crime clearance must be accompanied by ways to translate data into knowledge about crime, better tactics, or improvement in the quality of prevention strategies (Ridgeway, 2018).

### d. Transformation from Traditional Policing to Digital Policing

Data integration and implementation of data-based law enforcement is the impetus for the change from traditional policing to digital policing. The use of big data can change surveillance practices in traditional policing in five main ways. First, traditional policing which was originally traditional policing carried out with discretionary risk assessments can turn into quantified risk assessments. Second, the exploratory analytics process that occurs in traditional policing will turn into predictive analytics in digital policing. Third, the query-based information system will change to alert-based. Finally, the split data will be transformed into integrated data. The data integration then becomes the final transformation from traditional policing to digital policing. In this data integration, data systems that were initially separated are then combined into a relational system to manage data from various systems including non-judicial institutions (Brayne, 2017).
e. **Data Integration Implications for Efficiency**

Data integration does require investment in technology infrastructure. However, when this has been carried out with integrated data, it will save operational costs for law enforcement. The pace of technological evolution has provided law enforcement agencies with new tools and resources to assist in the discharge of their duties. But then, what cannot be ignored is the limited budget and time required to learn each of these technologies. Therefore, it is important to find a tool that can assist in law enforcement that best suits the members of the police force and their police department. This then leads to solutions that can save money, save time, and serve as police performance enhancements.

**Recommendation**

a. **National Citizen Data Integration**

Integration of citizen data on a national scale is needed to increase the effectiveness of law enforcement efforts. This can take advantage of census data, e-KTP, BPJS, and so on. Citizen data recorded in the e-KTP, for example, consists of the Citizen Identification Number (NIK), Name, Address, District, Village, Place of Birth, Date of Birth, Marital Status, Occupation, and Blood Type (Dewi, 2018). Meanwhile, census data provides an overview of population characteristics in an area that can be used as demographic parameters and population projections in the form of fertility, mortality and migration (Utomo, Addiansyah, & Fikri, 2020). BPJS data itself is related to citizen health insurance data. The integration of these data nationally can facilitate the implementation of law enforcement by facilitating tracking of the condition of the population in Indonesia.

b. **Inter-Agency Coordination**

In addition to the integration of citizen data, integration between institutions in Indonesia is also needed to facilitate efforts to track people suspected of committing criminal acts. This system of integration between institutions and between government departments will provide horizontal integration that facilitates the exchange of information between institutions if needed at any time (Dewi, 2018). Institutions that need to coordinate include civil registration, schools/universities, hospitals, airports, stations, and so on. In this way, information about citizen activities and citizen movements can be analyzed and used as a basis for tracking criminal acts.

c. **Big Data Infrastructure**

The use of big data in law enforcement has led to the use of predictive analytical methods to predict crimes. Law enforcement can use predictive analytical methods to predict possible criminal acts. Predictive analytics uses historical and current data from multiple sources to identify trends, find linkages, and create models to help anticipate crime in society. This enables law enforcement to look to the future in innovative ways to more proactively address the public security needs of a community. Predictive analysis carried out on the possibility of crime is useful for placing police officers in areas where crime is likely to occur and designing effective patrol patterns to minimize crime rates (SAS, 2021).

d. **Ethical Considerations**

Data transparency and data availability as a result of the integration then lead to privacy issues. In this case, the privacy of citizens will be lower because every individual movement and mobility will be monitored. The problem of “Big Brother are watching you” becomes more real with the integration of data and monitoring. Therefore, data integration must be balanced with the professionalism of law enforcement to manage and utilize the data as well as possible in accordance with the mandate of the profession. The use of data integration should not be interfered with by...
personal or group interests by utilizing state databases. Thus, monitoring is only carried out when necessary and with the aim of providing greater benefit.

Conclusion

Indonesia's vast territory and high population have provided a unique condition for law enforcement in Indonesia. This, coupled with technological developments and the existence of guidance from the community to carry out law enforcement effectively, has led to the presence of various challenges in law enforcement. These challenges are related to the lack of resources, changes in the scope of law enforcement, and information that is not integrated. In fact, integrative data is useful in law enforcement efforts by making it easier to track the whereabouts of criminals. Therefore, data integration in policing needs to be developed immediately. Citizen data integration is carried out to provide data uniformity. Integrated citizen data can also accelerate the law enforcement process, develop prevention strategies, support the transformation to digital policing and increase law enforcement efficiency. Therefore, it is necessary to integrate citizen data nationally that combines census data, e-KTP, BPJS, and so on. In addition, inter-institutional coordination and the development of big data infrastructure that can be used to manage this data are also needed. Finally, what cannot be ignored is that data integration efforts need to pay attention to the privacy aspects of citizens by not using the available information other than for what it was intended.

Bibliography


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