#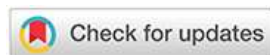 EVALUATION OF THE USAGE OF FINGERPRINT SYSTEM USAGE ON INMATES RESIDENTIAL ROOM'S INSPECTION OF SIDOARJO CLASS IIA PRISON INSTITUTION

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ABSTRACT

This study aims to evaluate the effectiveness of using the fingerprint system for residential room roll call in the Prisoner Block at the Class IIA Sidoharjo Penitentiary, which is designed to improve the security of the prisoner block, avoid head swapping between prisoners, and assist officers in accelerating the implementation of the inmate roll call. This study uses a qualitative method with an observation approach, document study, and in-depth interviews with the head of the prison security unit, head of the security squad, prison security unit staff, members of the guard squad, and two prisoners. The results of this study indicate that the fingerprint system is generally effective in identifying prisoners and accelerating the implementation of the residential room roll call. The time required for the residential room roll call was significantly reduced, and the incidents of illegal room transfers decreased. However, there are still some technical obstacles that cause identification failures and a lack of machines, so that use is still uneven. In addition, this system is considered less responsive to the increase in the number of prisoners and still requires routine maintenance. From an innovation perspective, the fingerprint system was well received by officers and management because it provided significant relative advantages over manual methods. Although the system was initially considered complicated, after training, officers were able to operate it well. The success of the system was also easily observed through increased inmate compliance with roll call rules and decreased incidents of violations.

Keywords: Evaluation; Fingerprint System; Residential Room Roll Call; Sidoarjo Prison

INTRODUCTION

The increasing population and social shifts in Indonesia require the government to proactively adopt structured changes in various sectors such as the economy, education, health, politics and law. Innovation is needed to achieve progress according to the times. According to Gillin, social change is a variation in the way of life due to changes in geography, material culture, population composition, ideology, and new discoveries in society (Rafiq, 2015). Technology now plays a big role in everyday life, such as smartphones which make it easier to access social media and shopping.

According to Read Brain (1937), technology refers to tools that support and facilitate human life, and continue to develop. Even though it brings benefits, technological advances also trigger negative impacts, such as changes in people's behavior towards crime, so they require wise handling (Pasya et al., 2022). Technology covers various branches of knowledge and plays an important role in facilitating human activities, from trade to ASN bureaucracy in serving the public. This major change due to technology is called disruption, which creates new innovations by significantly overhauling the old order.Crime is defined as a violation of the law that harms and disrupts society. According to G.W. Bawengan (1977), criminal acts are contrary to applicable legal principles. The Criminal Code (KUHP) states that every crime or violation committed by a person can result in criminal sanctions. Article 1 of the Criminal Code confirms that an act cannot be punished unless it is based on the provisions of existing laws and regulations. The following is data on the number of crimes that occurred in Indonesia.

Security in Correctional Institutions, based on Article 1 Paragraph 13 of Law Number 22 of 2022, aims to maintain stability and security. Its main function is to prevent escapes, enforce discipline, prevent criminal acts between prisoners and against officers, and protect the public from potential threats. Security must also pay attention to the welfare and human rights of prisoners, creating a safe and humane environment. Article in Law Number 22 of 2022 confirms that security in correctional institutions includes prevention, action and restoration of security and order disturbances. Prevention focuses on proactive steps to prevent violations, repression responding decisively to threats, and recovery to restore safe conditions through rehabilitation and counseling. Security also includes holistic development of prisoners, with the aim of creating a safe environment and supporting the rehabilitation, skills and reintegration of prisoners so that they are ready to return to society in a productive manner.

Kalianda Class IIA Prison in South Lampung faces major challenges in handling prisoners with diverse criminal backgrounds, including theft, drugs and violence. Its strategic location, near Bakauheni Harbor with busy trading activities, causes a high crime rate. The complexity of the inmate population in prisons adds to the challenges in efforts to rehabilitate and prevent recidivism. This research highlights an important issue in correctional institutions, where prisons are considered a place where inmates learn new skills and knowledge to commit crimes. This raises concerns about the effectiveness of rehabilitation in prisons. According to Dirgantara (2023), prisons which are supposed to function as places of guidance often turn into "schools of crime". Yanto (2021) also stated that prisons are often seen as places where prisoners learn and develop criminal skills.

Development and rehabilitation in correctional institutions is an important part of systemic efforts to improve the lives of prisoners and prevent reoffending. By providing education, skills training, mental health services, and social support, inmates are given the opportunity to build a better future. Alignment between the objectives of the Law and its implementation in correctional institutions is necessary to create a system that is fair,

humane, and supports the reintegration of prisoners into society. Correctional Institutions play a role in developing prisoners and are now implementing digital-based public service innovations. Referring to Presidential Regulation Number 95 of 2018, SPBE (Electronic Based Government System) utilizes information technology to increase the efficiency and effectiveness of public services. SPBE is expected to speed up, clarify and account for government processes, as part of the modernization of the government sector in Indonesia.

Overcrowding in the Correctional Technical Implementation Unit poses serious security challenges. Inmate overcrowding makes supervision difficult, increasing the potential for conflict, violence and security breaches. Supervision becomes more difficult, officers find it difficult to monitor inmate activities and respond quickly to emergency situations. Additionally, tense environments increase the risk of conflict between inmates, which can endanger the safety of staff and residents.
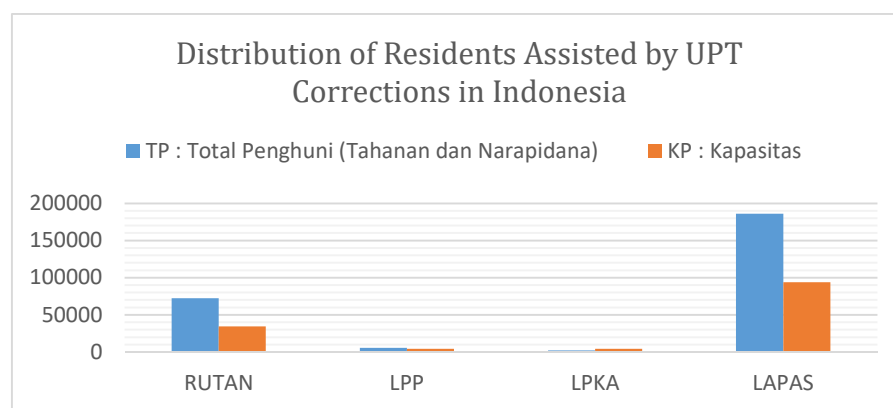
Source: sdppublik.ditjenpas.go.id, 2024

Figure 1
Distribution of Residents Assisted by UPT Corrections in Indonesia

In general, the data above illustrates that almost all types of Correctional Technical Implementation Units (UPT) experience issues of excess capacity, except for Special Children's Correctional Institutions (LPKA) which still have capacity that has not been fully filled. This situation of excess capacity can be considered an indication of the challenges faced by the criminal justice and correctional systems. Sidoarjo Class IIA Penitentiary faces serious challenges related to overcrowding or excess capacity, where this facility is designed to accommodate as many as 388 inmates. However, currently as of February 18 2024, via the Public SDP website belonging to the Directorate General of Corrections, the number of prison inmates has reached 1211, exceeding the stated capacity. This significant excess capacity creates enormous pressure on infrastructure and services within correctional institutions. Excess capacity in correctional institutions puts enormous pressure on infrastructure and services. Officers have difficulty monitoring and managing to maintain security and prevent conflicts between prisoners. Access to health services, education and rehabilitation programs is also disrupted. From a security perspective, overcrowding at the Class IIA Sidoarjo Penitentiary increases the risk of conflict and security breaches, and hinders the implementation of effective security protocols, including searches and management of inmates.

Through its official Instagram account, "LAPAS_DELTA," the Class IIA Sidoarjo Penitentiary informs about activities that disturb security, such as illegal movement of prisoner blocks, which can form dangerous networks. This happens because officers do

not fully know the prisoners, making proper placement difficult. To prevent similar incidents, action is needed to improve public services and preventive measures. Innovation in security aspects, such as the use of information technology, is very important. Referring to Presidential Regulation no. 95 of 2018 and Minister of Law and Human Rights Regulation no. 30 of 2021, the implementation of the finger print system in the Sidoarjo Class IIA prison will help improve employee performance and security. The Sidoarjo Class IIA Penitentiary previously used manual methods for inmate roll call, which risked illegal block movement violations. To overcome this problem, they switched to a finger print system which effectively minimizes errors. Finger print is an innovation that speeds up the process, replacing time-consuming manual data. This tool applies biometric technology to record and store fingerprint patterns for identification, and has been widely used in Indonesia, including in company attendance.

The use of finger print machines for attendance has become common practice, where fingerprints are matched with recorded data. In correctional institutions, the finger print roll call system increases security by ensuring that the inmates present are those who are supposed to be where they are. This helps prevent escape or unwanted identity changes. The use of finger prints to calculate prisoner attendance is starting to become more common, and manual methods are starting to be abandoned. This innovation in using finger prints is also supported by Harvard's Theodore Levitt in Suryana (2014:43), who states that innovation is the ability to apply creative solutions to existing problems and opportunities to further prosper people's lives (Khoiri et al., 2019). The use of finger prints for prison roll calls at the Class IIA Sidoarjo Correctional Institution has been running properly. This is demonstrated by real time records from the finger print system. The use of this system can run well if the facilities and infrastructure, especially electric current, are the main power for the operation of this system. Likewise, if the electricity goes out then this system cannot be operated. The innovation of using finger printing makes work easier, but also creates problems during power outages. When this happens, the residential block apple system reverts to manual methods, which are time consuming and can threaten security and order. Therefore, it is important to ensure that the innovation implemented runs well and effectively.

Referring to the problems above, researchers feel it is necessary to research the evaluation of the finger print system in its implementation and the obstacles during the process will be described in this research. The use of finger prints will discuss how finger prints will affect prison employees in carrying out their duties and functions, as well as prison security and order, or vice versa because it is considered difficult to adapt to these advances in carrying out the responsibilities they carry out. Because of these problems, the author is interested in conducting research on the evaluation of finger prints as a calculation of prisoner attendance with the research title Evaluation of the Use of the Finger Print System for Residential Rooms in the Prisoner Block at the Class IIA Sidoarjo Penitentiary.

LITERATURE REVIEW

In the framework of this research, the author found a number of results related to the study to be carried out, which became the basis for reference in preparing this proposal. The author explores additional research sources from the literature, such as journals or findings that have been found by previous researchers. Based on research from Hayato and Isbandono (2023), the application of finger print technology to improve employee discipline at BKPSDM Surabaya City. This research aims to evaluate the extent to which the application of finger print has influenced employee discipline in this institution. The

research results show that certain steps, such as understanding the purpose of implementing finger print, providing examples of discipline by leaders, providing services according to regulations, fairness in giving rewards and sanctions, and courage in giving punishments according to government regulations, play a role in increasing employee discipline.

Then based on research by Ramayani (2021) looks at elements such as goals and abilities, leadership example, remuneration, justice, inherent supervision, punitive sanctions, firmness, and human relations. In the context of civil service discipline, this research highlights the importance of these factors in forming an effective disciplinary structure. Apart from that, the research results also show that the use of fingerprint attendance technology can provide guarantees against the non-manipulation of employee attendance data.

This research also uses evaluation theory according to Dunn (2003) and innovation theory according to Rogers (1983). Bryan and White (1987) explain that evaluation is an attempt to record and assess what happened and the reasons behind it. The simplest evaluation is collecting information about conditions before and after the implementation of a program or plan. Evaluation according to Jones in Aprilia (2009) is "evaluation is an activity which can contribute greatly to the understanding and improvement of policy development and implementation". Dunn (2003) states more clearly that evaluation helps in considering the values that support goals and selecting targets. In general, a value can be questioned by asking probing questions about the goal and readiness of the target. According to Dunn (2003), there are six criteria for evaluating policies, including effectiveness, efficiency, adequacy, alignment, responsiveness and accuracy.

According to Rogers (1983), defines innovation as an idea, concept, practice, or object/object that is recognized and accepted as something new by a person or group for adoption. Innovation is planned change, aimed at improving practices. Thus, the keyword in innovation is change. According to Law no. 18 of 2002, innovation is research, development and/or engineering activities aimed at developing practical applications of new scientific values and contexts, or new ways to apply existing science and technology to products or production processes. Rogers (1983), believes that organizational innovation does not necessarily require finding something new or the processes they adopt to be said to be innovative. Innovation is as much about the way new ideas and products are implemented as it is about the uniqueness of the original concept. Thus, innovation can improve the organization that is implemented and implemented in the organization. According to Rogers (1983), in (Yogi, 2008: 17 - 18), there are 5 indicators in innovation, namely relative advantage refers to an innovation that must have advantages and more value compared to previous innovations. Compatibility means having the nature of being compatible with the innovation being replaced. This is intended so that old innovations are not simply thrown away, apart from reasons of low cost factors, but also that old innovations become part of the transition process to new innovations. Complexity means that due to its new nature, the innovation has a higher level of complexity compared to previous innovations. Triability or the possibility of trying it is that innovation can only be accepted if it has been tested and proven to have advantages or greater value compared to old innovations. Observability or ease of observation, namely that an innovation must be observable in terms of how it works and produces something better.

METHOD

This research uses qualitative methods, which according to Creswell (2023) focus on in-depth understanding of phenomena through description and interpretation. Derived from disciplines such as anthropology, sociology, and the humanities, these methods include narrative, ethnography, phenomenology, and case studies. This approach emphasizes in-depth analysis in natural contexts, with the aim of understanding the meaning that individuals give to the phenomena they experience. Through interviews, observations, and verbal descriptions, researchers build understanding based on the informants' views, recording every important detail in the social interactions that occur.

This research uses a case study approach, which according to Stake and Yin, is an in-depth investigation of a particular case such as a program, event, or process, both for individuals and groups (Creswell, 2023). Case studies involve comprehensive data collection through various techniques over some time, delving into details to understand the context and dynamics that influence the phenomenon. This approach offers in-depth knowledge and provides valuable information for theory development or supporting better decision making.

RESULTS AND DISCUSSION

Evaluation of the use of fingerprints at the Class IIA Sidoarjo Penitentiary shows progress towards a more modern and safe correctional system. This technology integrates the biometric identity of prisoners, minimizes misuse of access, and improves security and order by making it easier for officers to monitor prisoner movements effectively and efficiently. The implementation of the fingerprint system supports Corrections Law Number 22 of 2022 which emphasizes the importance of coaching and supervising prisoners for social reintegration. This law encourages the use of technology in the management of correctional institutions to guarantee the rights of prisoners and increase transparency and accountability, ensuring optimal supervision without compromising their basic rights.

This research uses two theories as a basis for analysis: Evaluation Theory by Dunn (2003) to assess the effectiveness, efficiency, and relevance of policy implementation for the use of fingerprint technology, and Innovation Theory by Rogers (1983) to understand the process of adopting new technology. The combination of these two theories allows evaluating the success of fingerprint systems as well as analyzing their impact on increasing security and transparency in correctional institutions.

1. Effectiveness

    Based on observations and interviews at the Class IIA Sidoarjo prison, the use of the fingerprint system shows good effectiveness, especially in recording prisoner attendance. Officers reported that the system was accurate and movement data could be monitored in real-time, in accordance with the accuracy criteria in Dunn's Evaluation Theory. However, several technical problems, such as unreadable fingerprints, network problems, and data discrepancies, indicate that the system's effectiveness is not optimal. Even though it has high potential, this obstacle hampers the reliability and consistency of data recording, so further improvements are needed to increase the technical smoothness of the fingerprint system

2. Efficiency

    The efficiency aspect of the fingerprint system at the Sidoarjo Class IIA prison shows significant benefits in saving time and energy for officers when carrying out inmate roll call. In accordance with Dunn's Evaluation Theory, fingerprint implementation

optimizes resource use by making it easier to monitor prisoner attendance without manual checking. Despite increasing efficiency, challenges still exist in the implementation time which is not yet optimal due to limited tools and verification processes that must be carried out one by one. Even though Apple's implementation time is faster, it has not yet reached maximum efficiency. Therefore, increasing the number of fingerprint devices and system optimization is necessary to achieve better efficiency, with maximum results and minimum effort.

3. Adequacy

Analysis of the adequacy aspect of implementing the fingerprint system in the Sidoarjo Class IIA prison shows its effectiveness in increasing security and reducing incidents of illegal room transfers. According to Dunn's Evaluation Theory, this system is effective in meeting security needs by correctly identifying inmates. However, there are still shortcomings in the distribution and availability of tools, such as the limited number of fingerprint devices which are only available in Block A, while other blocks, including the women's block, do not have the same access. One device is used for three rooms, reducing efficiency and equal access. Even though the fingerprint system is quite adequate, there needs to be additional devices and expansion of coverage to ensure complete adequacy.

4. Responsiveness

Analysis of the responsiveness aspect of implementing the fingerprint system in the Sidoarjo Class IIA prison shows that this system has not been fully able to adapt to prison dynamics, such as fluctuations in the number of prisoners and their mobility. According to Dunn's Evaluation Theory, responsiveness reflects the ability of a policy to meet community needs. The fingerprint system faces problems in managing recidivist prisoner data, especially in updating or deleting fingerprint data, which slows down monitoring. Technical challenges also arise, such as slow internet networks and power outages, which affect system performance. These limitations indicate that although fingerprint systems have the potential to improve security, their responsiveness needs to be improved through infrastructure improvements and software updates to be more flexible in data management.

5. Precision

Analysis of aspects of the accuracy of implementing the fingerprint system in the Class IIA Sidoarjo prison shows that this program is designed to meet urgent needs, especially in overcoming overcrowding. According to Dunn's Evaluation Theory, appropriateness reflects the policy's ability to meet its objectives and the suitability of its underlying assumptions. The implementation of a fingerprint system helps prison management by increasing the effectiveness of monitoring prisoners during roll calls, ensuring officers can monitor prisoners' whereabouts accurately. In addition, this system increases inmates' compliance with the rules, making them more disciplined during roll call procedures. Although this system meets the criteria for accuracy in supporting security and order goals, there is still room for technical improvement so that it can function optimally.

Then the researchers also analyzed the application of the fingerprint system using Innovation Theory according to Rogers (1983), which explains the process of adopting an innovation through five important elements: Relative Advantage (relative advantage), Compatibility (suitability), Complexity (complexity), Triability (possibility tried), and Observability (ease of observation). Using this theory, researchers evaluated the extent to

which fingerprint systems provide relative advantages over traditional methods of surveillance, such as manual recording, which are time-consuming and prone to errors.

1. Relative Advantage

   The implementation of the fingerprint system in the Sidoarjo Class IIA prison shows relative advantages according to Rogers' Innovation Theory. This system has proven to be better than the previous manual method, especially in increasing the accuracy and efficiency of inmate data management. Biometric technology reduces the risk of recording errors and identity falsification, making surveillance safer and more precise. In addition, this system speeds up the verification process during roll call, reduces officer workload, and increases operational efficiency. Overall, fingerprints provide a superior positive impact in terms of security and productivity in prisons.

2. Compatibility (suitability)

   Analysis of the compatibility aspect according to Rogers' Innovation Theory shows that the fingerprint system in the Class IIA Sidoarjo Prison has been successfully integrated into the existing system. This technology improves the accuracy of inmate counts without suddenly replacing manual methods, so the transition is smooth. Despite the additional costs, the security benefits are worth it. Officer training also helps reduce resistance to innovation, making fingerprint adoption faster and more effective in supporting the management and supervision of prisoners.

3. Complexity

   The level of complexity in implementing the fingerprint system in the Sidoarjo Class IIA prison is an obstacle for officers, in accordance with Rogers' (1983) innovation theory. Lack of training makes it difficult for officers to operate these systems, slowing adoption of the technology. However, for prisoners, fingerprints are considered efficient and easy to use, only requiring fingerprint scanning. This difference in perception shows that technological complexity is perceived differently by officers who handle technical aspects, while prisoners only interact with simple parts.

4. Triability (likelihood of being tried)

   In implementing the fingerprint system in the Class IIA Sidoarjo prison, triability (the possibility of being tested) plays an important role in the adoption of this technology, in accordance with Rogers' (1983) innovation theory. The system was initially tested in Block A, allowing officers to observe its functionality before being expanded to other blocks. These trials help reduce uncertainty and provide confidence in technology adoption. Although the trials demonstrated the system's efficiency and security, some technical challenges, such as data updates and network issues, still required adjustments before full-scale implementation across the block.

5. Observability (ease of observation)

   The implementation of the fingerprint system in the Class IIA Sidoarjo prison shows the importance of observability, namely the ease of observing the results of innovation, in supporting technology adoption. Based on the theory of Rogers (1983), the clearer the benefits of an innovation, the greater the likelihood of its adoption. The use of fingerprints in prisons provides concrete results that are easy to observe, such as increasing efficiency and transparency in monitoring prisoner attendance. Officers and inmates experienced immediate benefits, such as ease and speed in the attendance process, which strengthened trust in the technology and encouraged wider adoption.

CONCLUSION AND SUGGESTION

Evaluation of the use of the fingerprint system at the Class IIA Sidoarjo Penitentiary shows that this technology has had a significant impact in improving supervision and control of

access to inmates' residential rooms. Based on Dunn's (2003) Evaluation Theory, the application of fingerprints has proven to be effective in increasing recording accuracy and security in prisons. This technology allows officers to monitor inmate movements in real-time with a high degree of accuracy, thereby reducing the risk of rule violations and abuse of access. However, technical obstacles such as network problems, limited devices, and slow verification processes indicate that the system's technical efficiency is not yet fully optimal. Although this system has provided significant benefits in saving staff time and energy, it still requires an increase in the number of devices and infrastructure improvements to support overall system performance.

Referring to Rogers' (1983) Innovation Theory, the fingerprint system in Class IIA Sidoarjo prison also shows a strong relative advantage compared to previous manual methods. This technology presents clear advantages in terms of accuracy, efficiency and safety, the results of which are easy to observe (observability) by users, both officers and prisoners. However, challenges remain in the triability aspect, because trials of this system are still limited to certain residential blocks. To increase wider adoption, it is necessary to expand implementation to all residential blocks, including the addition of fingerprint devices. Overall, this system has great potential in supporting more modern and transparent prison management, however technical and operational improvements are still needed to ensure the system runs optimally and supports security and order throughout prisons.

As a suggestion, to increase the effectiveness and efficiency of using the fingerprint system in Class IIA Sidoarjo prisons, it is necessary to increase the number of devices in all blocks, including the women's block, as well as strengthening infrastructure such as internet networks and hardware to overcome technical problems. Regular training for officers is also important to ensure understanding and ability to operate the system optimally. This increase will support smooth operations, security, and order in prisons. For future researchers, it is recommended to expand the research by evaluating the implementation of fingerprint systems in other prisons, exploring user perceptions and satisfaction, and reviewing the potential integration of other security technologies to get a more comprehensive picture and provide better policy recommendations for technology-based prison management.

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