

## ANALYSIS OF PAU TASK DEVICES IN IMMIGRATION SERVICES AT THE IMMIGRATION CHECKPOINT (TPI) OF I GUSTI NGURAH RAI INTERNATIONAL AIRPORT

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### Abstract

The Passenger Analysis Unit (PAU) at I Gusti Ngurah Rai International Airport, Bali, plays a strategic role in analyzing international passenger data to support effective immigration control at the main gateway for foreign nationals and Indonesian citizens to enter Indonesia. The PAU is tasked with proactively profiling and risk assessments before passengers arrive through the Advance Passenger Information System (APIS), enabling early detection of potential violations or security risks such as criminal records or overstays. In addition to its immigration intelligence function, the PAU also ensures smooth public services by optimizing fast, accurate, and humane immigration administration processes, and integrating the use of technology for operational efficiency. Despite facing technical obstacles, inter-agency coordination, and public awareness that still needs to be improved, the PAU's existence is key to maintaining national security while improving the quality of public services at Ngurah Rai Airport, as one of the busiest and best airports in Asia. This research uses a qualitative method with a case study approach, because the main focus of the research is directed at the Passenger Analysis Unit (PAU) as a work unit operating at the Immigration Checkpoint (TPI) of I Gusti Ngurah Rai International Airport. This case study was chosen because it allows researchers to gain a deeper understanding of the immigration public service phenomenon implemented by the PAU in a concrete and specific context.

**Keywords:** PAU, Immigration, Supervision

### A. INTRODUCTION

In the era of globalization and high human mobility between countries, monitoring and controlling the flow of international passengers has become a strategic task in the immigration system. To address this challenge, a task force called the Passenger Analysis Unit (PAU) was established, a functional work unit tasked with analyzing data and information on international passengers, both those entering and leaving the territory of Indonesia. The PAU operates strategically at various Immigration Checkpoints (TPI), including the TPI at I Gusti Ngurah Rai International Airport, Bali, which is one of the main entry points for foreign nationals (WNA) and Indonesian citizens (WNI) from abroad.

General Administrative Inspectors (PAU) play a vital role in public services, particularly in immigration supervision and services at Immigration Checkpoints (TPI). PAUs are responsible for ensuring that all administrative procedures related to the examination of foreigners' travel documents are carried out properly and in accordance with applicable regulations. They act as a liaison between the public and the immigration system, ensuring that all administrative processes run smoothly and in accordance with applicable laws.

Through their in-depth understanding of immigration regulations, the PAU helps identify potential violations or administrative errors that could impact service quality. PAUs contribute significantly to immigration services by minimizing administrative obstacles that can cause delays or errors in the service process. They serve not only as maintainers of order but also as facilitators, helping expedite the administrative process for immigration service users. In this context, PAUs are a crucial element in expediting the flow of passengers entering and leaving Indonesia, which in turn improves airport operational efficiency, particularly at the Terminal 10 (TPI) at I Gusti Ngurah Rai International Airport.

The professionalism of PAUs also plays a significant role in improving the quality of public services. With their competence and high work ethic, PAUs can provide fast, accurate, and humane service. This is crucial because fast and accurate service reduces long queues and inconvenience for passengers traveling internationally. Well-trained PAUs with a deep understanding of immigration regulations will increase public trust in the immigration system, making it more transparent and reliable.

In this digital era, the role of the PAU also involves adapting to the latest technology used in immigration services. For example, the PAU can serve as a liaison between the technology applications or systems used at the TPI (Transportation Terminal) and ongoing manual administrative processes. With the PAU's expertise in using technological devices, service processes become more efficient and human error is minimized. The PAU also plays a role in ensuring that the use of this technology is not merely a matter of implementing tools, but is accompanied by a deep understanding to optimize its performance.

In general, the PAU is part of immigration modernization and intelligence efforts, integrating information technology, crossing databases, and inter-agency cooperation to conduct early detection of potential immigration violations. The main function of the PAU is to conduct profiling and risk assessments on passengers, to assess potential security risks or immigration violations before the individual arrives at the crossing point. In other words, the PAU is tasked with classifying passengers based on certain indicators (country of origin, visa type, travel history, and intelligence information), to determine whether the passenger falls into the category that requires further inspection (secondary inspection). One of the advantages of the PAU is its ability to conduct pre-arrival screening, namely analysis conducted before passengers arrive in Indonesian territory, through the Advanced Passenger Information System (APIS) or other supporting systems connected to airlines and international databases. This allows Immigration authorities to detect early the presence of foreigners with criminal records, involvement in transnational networks (such as human trafficking, narcotics, or terrorism), or strong indications of committing overstaying or misusing visit permits.

In addition to its early detection function, the PAU also plays a strategic role in supporting fast, precise, and accurate public services. Through an efficient risk analysis process, the PAU is able to assist immigration officers in making data-driven decisions, eliminating the need for manual or in-depth screening of all passengers. This creates a balance between national security and the smooth operation of immigration services, in accordance with the principles of facilitation and control, which serve as international guidelines for border management. Indonesia's public service system continues to evolve in line with the increasing public demand for fast, efficient, and transparent services. One crucial aspect of public services is immigration, which plays a significant role in maintaining the integrity and security of the nation and supporting cross-border mobility.

In Indonesia, one of the main gateways for the flow of people in and out is the airport, especially Ngurah Rai International Airport in Bali, which is a major entry point for international tourists. The existence of an effective immigration inspection system at this

airport is crucial, both for managing the flow of arrivals and monitoring potential threats to national security. According to the official website of the Central Statistics Agency (BPS), in the first quarter of 2025, I Gusti Ngurah Rai International Airport recorded a total of 5,208,342 passengers and 32,669 aircraft movements. Of these, 3,295,693 were international passengers and 1,912,649 were domestic passengers. The airport was also awarded as one of the Best Regional Airports in Asia 2025, ranking sixth in Asia. In the context of inspections at Immigration Checkpoints (TPI), the PAU is tasked with processing passenger information based on ticket data, travel records, and intelligence to ensure each passenger has undergone adequate screening. The PAU collaborates with immigration officers, customs, and airport security to ensure border order.

However, the Immigration and Customs Administration (PAU) faces challenges such as lack of inter-agency coordination, limited resources, and low public awareness of its role. This suboptimal coordination results in some information not being properly synergized, while technological and infrastructure limitations impact the speed and accuracy of inspections. Low immigration literacy leads to minimal public participation in maintaining border security. The slow immigration inspection process also leads to long queues. Although autogate technology has been implemented, limitations remain, preventing all passengers from being effectively screened.

This research is important because it addresses strategic aspects of public service in the immigration sector. As an international tourist destination, Bali makes the quality of service at Ngurah Rai Airport crucial for Indonesia's image globally. This study aims to assess the role of the Immigration and Customs Administration (PAU) in immigration services at Ngurah Rai Airport and identify operational challenges faced. Optimizing the role of the PAU is crucial for maintaining national security and ensuring smooth international mobility. This research is expected to provide in-depth insights and recommendations for improving the immigration service system at Ngurah Rai Airport.

## **B. LITERATURE REVIEW**

### **Public Service Concept**

Public service is a series of activities carried out by state officials to meet the needs of the public in accordance with applicable laws and policies. This service is not only oriented towards output but also on the quality of the process, ensuring speed, accuracy, and legal certainty for service recipients. In the context of immigration, public services must be able to provide legal certainty while ensuring the comfort and security of service users (Widanti, 2022).

In modern public services, there is a demand for officials to be able to introduce innovation and provide a more effective experience for the public. This requires a clear set of tasks, a structured work system, and measurable operational standards. Therefore, public services in the field of immigration are not merely procedural fulfillment, but also part of the country's image in the eyes of the public and the international community (Prabowo et al., 2022).

### **The Role and Function of Immigration**

Immigration plays a strategic role as the frontline in monitoring the entry and exit of people into and out of a country. Immigration functions are not only administrative but also closely related to the country's security, sovereignty, and diplomacy. Therefore, the implementation of immigration functions must be supported by competent and professional personnel (Afsari et al., 2023).

Furthermore, immigration also plays a role in providing services concerning the rights of citizens and foreigners. Speed, accuracy, and integrity in service are key to maintaining

public trust. In the context of international airports, immigration functions not only administratively but also represents the nation's image in the eyes of the world (Pratama, 2023).

### **PAU Task Devices in TPI Services**

Immigration Officers (PAUs) at Immigration Checkpoints (TPIs) play a crucial role in ensuring the smooth running of the inspection process. They are tasked with verifying travel documents, ensuring data validity, and detecting potential violations that could threaten national security. These officers are typically supported by an integrated information technology system to expedite the service process (Maharani, 2025).

Furthermore, PAU officers also function to provide direct service to service users while maintaining ethics and professionalism. This requires clear standard procedures, strong communication skills, and the ability to handle emergencies or potential disruptions. Therefore, PAU officers at TPIs serve not only as administrative implementers but also as the spearhead of immigration oversight and services (Jamridafrijal et al., 2024).

### **Immigration Services at International Airports**

Immigration services at international airports are a key indicator of public service quality globally. Airports serve as the primary gateway for people to enter and exit, so the speed and accuracy of service significantly determine user satisfaction. The quality of immigration services at airports also impacts the country's image in tourism, investment, and diplomacy (Rorong et al., 2022).

I Gusti Ngurah Rai International Airport, as one of Indonesia's main entry points, faces high service demands. The heavy influx of international tourists demands that immigration officials operate effectively and professionally. The role of the Immigration Officer (PAU) in this regard is to provide fast, accurate services while prioritizing national security. With excellent service, the airport can strengthen its position as a global representation of Indonesia.

## **C. RESEARCH METHODOLOGY**

This research employs a qualitative method with a case study approach, as the primary focus of the research is on the Passenger Analysis Unit (PAU), a work unit operating at the Immigration Checkpoint (TPI) at I Gusti Ngurah Rai International Airport. This case study was chosen because it allows researchers to gain a deeper understanding of the immigration public service provided by the PAU in a concrete and specific context.

Data were obtained through literature review and limited interviews with legal practitioners, government officials, and industry players in the IT sector. The collected data were analyzed qualitatively to evaluate the alignment between legal norms and investment practices in the field, as well as the extent to which the PAU's task instruments are implemented in immigration services at the TPI (Immigration Checkpoint) at I Gusti Ngurah Rai International Airport.

## **D. RESULT AND DISCUSSION**

### **The Role of the Passenger Analysis Unit (PAU) in Immigration Public Services at the Immigration Checkpoint (TPI) at I Gusti Ngurah Rai International Airport**

The Passenger Analysis Unit (PAU) plays a central role in immigration public services at the Immigration Checkpoint (TPI) at I Gusti Ngurah Rai International Airport. The PAU serves as the main control center, monitoring passenger traffic in real time using state-of-the-art technology. The PAU enables rapid and comprehensive passenger data processing to detect various potential threats, such as those on the blacklist, persons of interest, and Interpol hit data, thereby safeguarding national security and state sovereignty.

The technology used in the PAU provides immigration officers with early warnings of potential security risks during the inspection process. This is crucial given that Ngurah Rai Airport is one of Indonesia's international gateways with a high passenger volume. Rapid detection improves both security and the efficiency of immigration services.

The PAU also functions to optimize the duties of landing officials at the Terminal of Arrival (TPI) in supervising and controlling passenger movement to and from Indonesian territory. Through rapid and comprehensive data analysis, the PAU assists officers in decision-making, particularly in immigration law enforcement and detecting travel document misuse. This also supports the implementation of a modern Immigration Information Management System in accordance with Immigration Law No. 6 of 2011.

In addition to its detection and analysis functions, the PAU helps reduce queues and expedite the inspection process by integrating technologies such as Autogates at the arrival and departure terminals. These Autogates are part of a service innovation that enhances the comfort and security of passengers passing through the Terminal of Arrival (TPI) at Ngurah Rai Airport.

In practice, the PAU is also integrated with the immigration forensic laboratory, equipped with the latest equipment. This laboratory is used for further examination of travel documents if suspicions or indications of forgery are found, thereby strengthening the oversight function and protecting against document misuse.

However, the implementation of the PAU is not entirely without challenges. Obstacles still encountered include supporting infrastructure, such as the stability of the electrical system and network, which impact the performance of PAU equipment. Furthermore, the lack of human resources, particularly adequate landing officers at the Ngurah Rai International Airport (TPI), remains a barrier to optimal PAU functionality.

Overcoming these obstacles requires ongoing efforts, such as increasing the number of competent human resources, intensive immigration training for officers, and the development of standard operating procedures (SOPs) and clear regulations for PAU operations. Inter-agency coordination must also be improved to ensure passenger data is properly and accurately integrated into the system.

The PAU also plays a role in supporting stricter immigration supervision and preventing legal violations at Ngurah Rai Airport. For example, the PAU has been a crucial tool in detecting immigration violations involving foreign nationals, thus enhancing the airport's deterrence capabilities.

Furthermore, the PAU contributes to the modernization of immigration services in line with global demands. With the introduction of this advanced technology, services at the Ngurah Rai International Airport (TPI) have seen significant improvements in quality, both in terms of speed, data accuracy, and international travel security.

### **Obstacles Faced by the Passenger Analysis Unit (PAU) in Carrying Out Immigration Public Service Functions at the TPI of I Gusti Ngurah Rai International Airport**

The Passenger Analysis Unit (PAU) at I Gusti Ngurah Rai International Airport faces significant challenges in carrying out its immigration public service functions. One major obstacle is a lack of human resources, particularly staff available on each shift. This often results in delays and long queues for passengers, particularly those with disabilities and special needs passengers such as wheelchair users, due to staff inability to provide optimal service.

In addition to limited personnel, the PAU also faces issues with its information technology systems, such as frequent errors in the FIDS system and the SIOPSKOM Inalix system, which impact the speed and accuracy of immigration information. These technical

disruptions disrupt coordination with other units and airlines, thus suboptimal service delivery.

Communication issues are also a significant barrier, particularly when serving international passengers who cannot speak Indonesian. PAU staff continue to struggle with foreign language skills, including English, which slows down the service process for foreign passengers and makes it prone to miscommunication.

Limited facilities also pose a challenge, such as the availability of equipment and accessibility for passengers with special needs. For example, wheelchairs provided are often in poor condition, with brakes failing and wheels making it difficult to handle passengers with special needs and slowing down the boarding and transit processes.

The configuration and organization of the Airport Transit Authority (PAU) services are sometimes suboptimal, particularly in terms of organizational functions. Lack of thorough planning and inappropriate division of tasks result in slow and inefficient responses to service issues, impacting the speed and empathy of officers towards passengers.

Furthermore, suboptimal coordination between the Airport Transit Authority (PAU) and various related work units at the airport causes service disruptions. For example, when equipment malfunctions or system issues occur, the handling process takes time because other units must be contacted, further slowing immigration services.

The increasing passenger volume at I Gusti Ngurah Rai International Airport annually forces the Airport Transit Authority (PAU) to handle more passengers than its ideal capacity. This excess capacity exacerbates the challenge of providing fast, safe, and comfortable services in accordance with immigration and public service standards.

The varying needs of each passenger also pose a challenge. Elderly passengers, people with disabilities, pregnant women, children, and passengers with other special needs require more specialized and personalized care, while limited staff and facilities mean that these services cannot always be optimally met.

In emergency situations or during flight delays, the Air Traffic Control Unit (PAU) faces difficulties in managing passengers and ensuring a smooth immigration process without adding to passenger anxiety. This requires PAU to have clear standard operating procedures (SOPs) and intensive training to handle various emergency situations quickly and professionally.

Finally, baggage handling and administrative processes, such as sweeping for lost baggage, also present challenges related to PAU services. Ineffective coordination with the relevant airlines often leads to delays and inefficiencies in passenger service. This requires PAU to continuously improve management, coordination, and human resource capacity and quality to ensure better immigration services at I Gusti Ngurah Rai International Airport.

### **Strategies That Can Be Applied to Optimize the Performance of the Passenger Analysis Unit (PAU) in Improving the Quality of Immigration Public Services at the TPI of I Gusti Ngurah Rai International Airport**

The strategy to optimize the performance of the Passenger Analysis Unit (PAU) at I Gusti Ngurah Rai International Airport's Terminal 1 (TPI) to improve the quality of immigration public services must be implemented comprehensively, taking into account aspects of technology, regulations, inter-agency coordination, and human resources. The PAU serves as a fast and accurate passenger data analysis tool to detect potential security threats and legal violations, and to facilitate data-driven decision-making in immigration supervision. Therefore, its optimization is crucial for maintaining national security and sovereignty and providing more responsive and effective services to passengers.

First, strengthening regulations and clear and integrated Standard Operating Procedures (SOPs) must be a priority. Although the PAU is already being used effectively, there are no

explicit technical regulations governing its use. The development of these regulations will provide a solid legal framework for the management and utilization of PAU data, while also establishing SOPs related to control, data security, and the handling of analysis results to support immigration supervision.

Furthermore, improving coordination and synergy between relevant agencies is crucial. The PAU collects and processes data from various sources, such as airline tickets and reservation systems. Therefore, collaboration between immigration, airlines, airport authorities, and formal security agencies needs to be strengthened. This ensures that all parties can optimally utilize PAU information to detect potential security violations or threats quickly and in a coordinated manner.

Training and improving the quality of human resources (HR) are also key to successfully optimizing PAU. Immigration officers must be regularly trained to properly operate the PAU system, understand data analysis results, and be able to make quick decisions based on that data. Furthermore, training should cover aspects of ethics, data security, and the development of information technology skills to continuously improve oversight effectiveness.

From a technological perspective, the PAU system must be continuously developed and adapted to the latest advances in information technology. Investment in software and hardware that supports fast and accurate passenger data analysis is essential. Furthermore, the system must have adequate security features to maintain the confidentiality and integrity of passenger data, in line with national and international standards in immigration and aviation security.

Furthermore, implementing survey methods and processing service performance data at airports can be a practical approach to continuously measure the effectiveness of the Airport Operations Unit (PAU). An example is the optimization of passenger services at other airports, such as Juanda Airport in Surabaya, which uses qualitative methods through observation and assessment of service procedures based on applicable Standard Operating Procedures (SOPs). By implementing a regular evaluation mechanism for service processes, SOPs, and facilities, PAU performance will be continuously monitored and can be continuously improved.

Integrating PAU data with other immigration information management systems is also highly strategic. For example, integration with the Immigration Management Information System (SIMKIM) can expedite passenger inspection processes and increase the effectiveness of detecting immigration violation risks. This integration will also simplify administration and reporting, and support more targeted policymaking to improve immigration public services.

An optimized security approach utilizing PAU must also be supported by regular monitoring and evaluation of the performance of officers involved in passenger services at the airport. Research on optimizing the performance of Aviation Security (AVSEC) officers shows that regular monitoring, skills development, and comprehensive performance evaluation can significantly improve service quality and security. This can also be adopted to support the optimization of PAU through supervision of immigration officers who use the system.

The number and distribution of officers operating the PAU also need to be considered to avoid work overload, which can reduce performance effectiveness. Proportional shift management and task allocation, along with the use of automation technology in the PAU system, can increase officer productivity and provide faster and more accurate service to passengers.

Finally, I Gusti Ngurah Rai International Airport can implement a user-centered service design approach by utilizing PAU analysis results. Information obtained from the PAU can be

used to improve service governance at crucial immigration service points, reduce waiting times, and provide clear information to passengers. This approach will increase user satisfaction while supporting the creation of a modern and safe airport.

## E. CONCLUSION

The Passenger Information and Communications Unit (PAU) serves as a central hub for real-time passenger data control and analysis, crucial for the early detection of security threats and immigration violations. Supported by cutting-edge technology and integrated systems such as Autogate and a forensic laboratory, the PAU improves service quality, speed of inspections, and security oversight at Ngurah Rai Airport, Indonesia's international gateway.

The PAU faces various challenges, including limited human resources, information technology disruptions (e.g., FIDS and SIOPSKOM Inalix system errors), inadequate facilities, language barriers, and coordination issues between work units. This impacts service effectiveness, particularly in handling passengers with special needs and the increasing passenger volume.

To improve the functionality of the PAU, strengthening integrated regulations and standard operating procedures (SOPs), improving coordination between relevant agencies, and intensive training for immigration officers in technology and service ethics are necessary. Technology development, effective human resource management, and a user-experience-oriented service approach are key to ensuring responsive, safe, and accurate immigration public services at Ngurah Rai Airport.

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