



Improving E-Arrival Card System Performance for Indonesia: A Review of Singapore's Implementation

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ABSTRACT:

This research explores the implementation and utilization of the E-Arrival Card system in Indonesia, using Singapore's experience as a benchmark case study. The E-Arrival Card is an electronic innovation designed to streamline the arrival and immigration inspection process by collecting visitor information prior to entry. This study employs a qualitative methodology, including a detailed literature review and secondary data analysis, to evaluate the system's deployment in Singapore, examining the associated policies, strengths, and weaknesses. The objective is to derive actionable recommendations for implementing a similar system in Indonesia. Data were gathered from various literature sources and analyzed using secondary analysis techniques. The findings indicate that in Singapore, the E-Arrival Card significantly enhances immigration efficiency and security while providing a positive user experience. In contrast, the system in Indonesia is still under development but has garnered positive feedback in trials conducted at several international airports. Based on these insights, this research recommends the development of a user-friendly online platform, integrating mobile applications, and using the E-Arrival Card for health monitoring and immigration law enforcement in Indonesia.

Keywords: E-Arrival card, Indonesia, Singapura.

INTRODUCTION

The E-Arrival Card system is an electronic system used by various countries to simplify the arrival and immigration inspection process. The system serves as an electronic document that collects information about visitors entering the country, including health-related information, travel history, and the purpose of their visit ((CDC, 2019; Oderkirk, 2017). The main purpose of the E-Arrival Card is to facilitate the arrival process by allowing the collection of the information needed before the visitor arrives in the destination country. In addition, the system also aims to monitor the health and safety of visitors and to improve efficiency in immigration supervision (Azhari, 2022; Barbarito et al., 2015).

The E-Arrival Card system is essential in facilitating the arrival and immigration inspection process for several key reasons (Wang et al., 2020; Wilonotomo et al., 2021). First, the system allows visitors to fill in information before arriving in the destination country, which significantly reduces the time required for immigration checks (Czaika & De Haas, 2017). In addition, the system also improves security by allowing the government to monitor the health and safety of visitors more effectively (Gharaibeh et al., 2017; Savandha & Azzahra, 2024). Efficiency is also improved because this system helps the government manage the immigration inspection process in a more structured and efficient manner (Zhang et al., 2017; Ziller & Goodman, 2020). Finally, by improving the quality of service to visitors, this system contributes to an overall improvement in the immigration experience (Maunier & Camelis, 2013; Sharma, 2012). In some countries, such as Singapore, the widespread implementation of the E-Arrival Card system has proven to be helpful in all of these aspects, bringing tangible benefits in streamlining and strengthening the arrival and immigration inspection process (MILLER, 2022; Sipahi & Saayi, 2024).

Based on the description above, this study formulates several main problems that will be discussed. First, this study will explore how the implementation and policies of the E-Arrival Card in Singapore are being implemented, including the steps taken by the Singapore government to implement this system and how the policy works. Second, this study will examine how the E-Arrival Card is implemented in Indonesia, including an analysis of the implementation methods and challenges faced in the implementation of this system. Third, this study aims to provide recommendations that can be taken by Indonesia by studying the successful use of the E-Arrival Card in Singapore so that Indonesia can adapt best practices and improve the effectiveness of the E-Arrival Card system in the country.

RESEARCH METHODS

This study uses a qualitative type of research. Qualitative research aims to understand various kinds of phenomena descriptively expressed in the form of words and language using various scientific methods. This type of research will be used to discuss the review of the implementation of the E-Arrival Card in Singapore and recommendations for Indonesia.

This study uses a qualitative descriptive method, this causes the problem to be studied depends on the level of validity of the data from the references in this study. Therefore, the data collection method used is library research, which conducts research by collecting data through several sources in the form of documents.

In this study, researchers used secondary analysis techniques, which are approaches that utilize existing data to identify new problems or test findings from previous research. This method involves using available quantitative or qualitative data, such as statistical data, documents, or other research results. Through secondary analysis techniques, researchers can collect and evaluate information from indirect sources, such as administrative records, research literature, or technical reports.

RESULTS AND DISCUSSION

Implementation of the E-Arrival Card System in Singapore and its Policies, Advantages and Disadvantages.

In Singapore, the E-Arrival Card System was introduced as part of efforts to improve immigration surveillance and reduce the use of paper-based embarkation (D/E) cards. The ICA (Immigration & Checkpoints Authority) began a trial of this system in October 2018, and in August 2019, they launched a beta version of the electronic service and mobile app for use by visitors using certain transport operators.

The policy regarding the use of the E-Arrival Card in Singapore covers several important aspects. First, this card can only be used by visitors who use the services of certain transportation operators such as AirAsia, Jetstar Asia, Cathay Pacific, Singapore Airlines, as well as ferry services such as Transtar Travel, BatamFast Ferries, Bintan Resort Ferries, Horizon Fast Ferry, and Majestic Fast Ferry. Other visitors are still required to use paper-based D/E cards. In addition, E-Arrival Card users are required to submit an application no later than three days prior to their arrival in Singapore, which can be done through the ICA website or MyICA mobile app. Lastly, the health policy is also implemented with the use of the E-Arrival Card, which requires the sending of an electronic health declaration prior to arrival, as well as allowing changes in the event of a change in the health status of visitors.

In general, the use of the SG Arrival Card application in the field has received a positive response with several advantages and disadvantages that users have identified. One of the advantages is the ease of topping up the card through the official ICA Singapore website or the MyICA Mobile application. This charging process can be done quickly and easily using a smartphone connected to the internet. In addition, the use of this application has also increased efficiency by reducing the use of paper-based D/E cards in the immigration surveillance process. Health information can be updated by users directly through this app, allowing for the disclosure of information necessary for more effective health monitoring.

There are several shortcomings identified by users related to the SG Arrival Card application. First, the use of this application must be done no later than three days before arrival in Singapore, so it requires careful time planning. In addition, health policies that require users to answer questions related to health conditions can take additional time when filling out the application.

Lastly, the MyICA Mobile application is only available to users with smartphones who have stable internet access, thus limiting access for those who do not have the device.

Indonesia's E-Arrival Card implemented

In Indonesia, the E-Arrival Card (EAC) is the latest innovation in digital immigration services introduced by the Directorate General of Immigration of the Ministry of Law and Human Rights (Kemenkumham) of the Republic of Indonesia. Launched in 2021, the EAC is a response to technological developments and needs during the COVID-19 pandemic. Its implementation is still in the development and expansion stages, covering leading international airports such as Soekarno-Hatta, Ngurah Rai, and Kuala Namu in 2022.

The public response to the use of e-arrival cards at other airports in Indonesia is generally positive. At the Batam and Bandung Immigration Checkpoints, this application has succeeded in making it easier to monitor the arrival of foreigners and improve the efficiency of immigration services. Husein Sastranegara International Airport also reported a positive reception of the application, which has overall helped to improve surveillance of foreigners and improve efficiency in immigration services in Indonesia.

The existing infrastructure and technology in Indonesia has supported the implementation and use of the E-Arrival Card with various features and applications that utilize digital technology for data collection and travel monitoring. Examples include the E-Arrival Card System which collects foreigners' travel data with features such as the use of GPS for location tracking and integration with existing immigration systems. Mobile applications such as e-HAC have also been developed to record domestic and international travel. Extensive and stable internet access in Indonesia is a major proponent in using digital technology for data collection and travel monitoring, which also allows integration with existing immigration systems.

The implementation of the E-Arrival Card (EAC) in Indonesia must comply with various related regulations and policies, including those related to data privacy, health policies, and integration with the national immigration system. In terms of data privacy, the implementation of the EAC must be in line with Law Number 27 of 2022 concerning Personal Data Protection (PDP Law). This includes a clear and transparent privacy policy regarding the collection, use, and storage of users' personal data. EAC systems must also be secure, protected from unauthorized access, improper use, and protect personal data from unauthorized disclosure, alteration, or destruction.

EAC can also be used as the main tool in monitoring the activities and whereabouts of foreigners in Indonesia. The protection of foreigners' personal data is a priority, by ensuring that foreigners' personal information is kept confidential and only used for legitimate immigration purposes. In integration with the national immigration system, the EAC must be connected to the Immigration Management Information System (SIMKIM) and Immigration Checkpoints (TPI), and be able to exchange data with other systems such as airlines and travel agents. The

interoperability of EAC with similar systems in other countries also needs to be considered to facilitate international mobility.

Recommendations for the State of Indonesia regarding the E-Arrival Card System that has been successfully implemented in Singapore

The implementation of e-arrival cards in Singapore has provided several important recommendations for Indonesia. First, Singapore has successfully developed an online system that makes it easier to use e-arrival cards. Indonesia can follow this example by developing a more effective and user-friendly online system. Second, Singapore uses the MyICA Mobile application to fill out e-arrival cards, so Indonesia can consider using a similar application to facilitate the process of filling in data. Third, Singapore uses e-arrival cards to collect important data from tourists, including health information, which can be a model for Indonesia in collecting relevant data and monitoring inflows into the country.

In addition, Singapore also uses e-arrival cards to monitor health and prevent the spread of infectious diseases, such as yellow fever and MERS. Indonesia may consider using e-arrival cards for similar purposes to improve health surveillance at the country's entry points. Furthermore, Singapore has stopped using physical debarkation cards and switched entirely to e-arrival cards, demonstrating efficiency in the use of digital technology. Indonesia can adopt the use of electronic arrival cards that are more effective and easy to use.

Singapore also monitors transactions made by visitors through e-arrival cards and provides Group Submission and Individual Submission features to make it easier to fill in information. Indonesia can consider this to better monitor and manage visitor information. Lastly, the Contact Us facility available in Singapore makes it easier for users to contact relevant agencies, which can be an inspiration for Indonesia to provide similar services. By considering these recommendations, Indonesia can develop an e-arrival card system that is more effective, easy to use, and better monitors the flow into the country.

The E-Arrival Card is expected to increase surveillance by collecting entry and exit crossing data electronically, which facilitates immigration surveillance and law enforcement. Heru Tjondro from the Immigration Division of the Regional Office of the Ministry of Law and Human Rights of West Java hopes that the e-Arrival Card can be applied nationally to facilitate the supervision of foreigners throughout Indonesia. In addition, the e-Arrival Card is expected to increase efficiency in managing the entry and exit crossings of foreigners, thereby simplifying the process of supervision and immigration law enforcement. Overall, the e-Arrival Card is expected to make a positive contribution to the Indonesian nation and state by increasing the supervision of foreigners and making it easier to manage their entry and exit crossings.

CONCLUSION

This study shows that the E-Arrival Card system has a significant role in facilitating the arrival and immigration inspection process, both in Singapore and in Indonesia. Through an analysis of the policies, implementation, and advantages and disadvantages of this system in Singapore, several important inputs for Indonesia in the development and implementation of the E-Arrival Card can be identified. In Indonesia, although the implementation of the E-Arrival Card is still in the development stage, the positive response from the public and the improvement in efficiency at several major airports shows the great potential of this system. The infrastructure and technology available have supported the use of the E-Arrival Card, although challenges related to regulation, health policy, and access need to be addressed to ensure its widespread successful implementation. By learning from Singapore's experience, Indonesia can adopt best practices such as developing a user-friendly online system, using mobile apps for data filling, and integrating with existing immigration systems. In addition, the emphasis on health surveillance and data privacy will ensure that these systems are not only efficient but also secure and reliable. Overall, the implementation of the E-Arrival Card in Indonesia is expected to improve immigration supervision, the efficiency of the arrival process, and the quality of service to visitors. With the right approach, this system can make a positive contribution to the nation and state in managing the entry and exit of foreigners more effectively and efficiently.

BIBLIOGRAPHY

- Azhari, A. (2022). Intelligence analysis of the role of the foreigner supervision unit of the Tangerang police intelligence in the supervision of foreign workers. *International Review of Humanities Studies*, 7(2), 14.
- Barbarito, F., Pincioli, F., Barone, A., Pizzo, F., Ranza, R., Mason, J., Mazzola, L., Bonacina, S., & Marcegaglia, S. (2015). Implementing the lifelong personal health record in a regionalised health information system: The case of Lombardy, Italy. *Computers in Biology and Medicine*, 59, 164–174.
- (CDC, C. for D. C. and P. (2019). *CDC yellow book 2020: health information for international travel*. Oxford University Press.
- Czaika, M., & De Haas, H. (2017). The effect of visas on migration processes. *International Migration Review*, 51(4), 893–926.
- Gharaibeh, A., Salahuddin, M. A., Hussini, S. J., Khreishah, A., Khalil, I., Guizani, M., & Al-Fuqaha, A. (2017). Smart cities: A survey on data management, security, and enabling technologies. *IEEE Communications Surveys & Tutorials*, 19(4), 2456–2501.
- Maunier, C., & Camelis, C. (2013). Toward an identification of elements contributing to satisfaction with the tourism experience. *Journal of Vacation Marketing*, 19(1), 19–39.
- MILLER, S. M. (2022). *Singapore public sector AI applications emphasizing public engagement: Six examples*.

- Oderkirk, J. (2017). *Readiness of electronic health record systems to contribute to national health information and research*.
- Savandha, S. D., & Azzahra, A. (2024). Enhancing E-Government Implementation Through Website Management. *International Journal of Social Service and Research*, 4(03), 1099–1105. <https://doi.org/10.46799/ijssr.v4i03.766>
- Sharma, R. (2012). Optimal method for migration of tasks with duplication. *2012 UKSim 14th International Conference on Computer Modelling and Simulation*, 510–515.
- Sipahi, E. B., & Saayi, Z. (2024). The world's first "Smart Nation" vision: the case of Singapore. *Smart Cities and Regional Development (SCRD) Journal*, 8(1), 41–58.
- Wang, P., Trivella, A., Goverde, R. M. P., & Corman, F. (2020). Train trajectory optimization for improved on-time arrival under parametric uncertainty. *Transportation Research Part C: Emerging Technologies*, 119, 102680.
- Wilonotomo, W., Putra, W. E., & Muhaemin, D. (2021). ANALYSIS OF E-ARRIVAL CARD SYSTEM WITH COBIT 5 FRAMEWORK IN THE DELIVER, SERVICE, SUPPORT (DSS) DOMAIN. *TEMATICS: Technology Management and Informatics Research Journals*, 3(1), 91–102.
- Zhang, K., Ni, J., Yang, K., Liang, X., Ren, J., & Shen, X. S. (2017). Security and privacy in smart city applications: Challenges and solutions. *IEEE Communications Magazine*, 55(1), 122–129.
- Ziller, C., & Goodman, S. W. (2020). Local government efficiency and anti-immigrant violence. *The Journal of Politics*, 82(3), 895–907.

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