Application of Single Identification Number on an Identity Card (E-KTP) in the Era of the Industrial Revolution 4.0

D Kurniasih[1*], A Feryandi[2], L Nurmayanti[3], P D Usmany[4]

[1]Departemen Ilmu Pemerintahan, Universitas Komputer Indonesia, Indonesia
[2,3]Departemen Akuntansi, Universitas Komputer Indonesia, Indonesia
[4] Departemen Ilmu Hubungan Internasional, Universitas Komputer Indonesia, Indonesia

Email: *dewi.kurniasih@email.unikom.ac.id

Abstract. This research aims to analyze the efficiency of the Single Identification Number on the identity card (e-KTP). The method used in this study was descriptive with the survey method, and to determine the efficiency of this study, we conducted questionnaires. This research results in several factors that determine the success of the Single Identification Number's success on e-KTP, including technical and economic aspects. From some of these factors, technological factors are obtained. Meanwhile, economic factors can help people to simplify administration anywhere without having to carry a different card. Moreover, it also anticipates the scarcity of blanks. Therefore, the Single Identification Number of e-KTP can be efficient in carrying out its function as a multi-purpose single identification number in a digital card (e-KTP) that makes it easier for the public. E-KTP becomes a solution for the community problem that can use as a multifunctional card, which will make it easier for the community to carry out administrative activities. Not only that, but the community is also facilitated by only doing one organizational activity.

1. Introduction

Industry 4.0 relies on adopting digital technologies to gather data in real-time and analyze it, providing helpful information to the manufacturing system [1]. The administration requires technology because, through this technology, the orderly administration can be organized well [2]. The base technologies are composing of the so-called new Information Communication Technology (CT), which includes the Internet of Things (IoT), cloud services, big data, and analytics [3]. Electronic administration (e-administration) uses Information Technology (IT) in administrating public service deliveries in Indonesia. ID number as Single Identity Number is a unique identification number integrated with various government and private data types [4]. Single Identification Number (SIN) and identity cards will form a national demographic database that can be the sole reference for various public service applications.

The first previous study is the single identity number and its influences on compliance with taxation obligations. The study analyzes how a single identity number can affect the data collection of public taxpayers [5]. The other previous study analyzes actors and networks in

the policy implementation of electronic ID cards (e-KTP) in Semarang City. Overall performance of electronic ID policy requires regulations, executors, tools, and systems. The actor approach is used to understand the whole aspect and how the entire actor functions are adequate because all aspects can be identified well [6]. By adding the single identity number with the analysis results, the implementation of the e-ID card policy in Cimahi City runs quite effective. But, it is not maximum. Resources in the performance of e-ID card policy in Cimahi are also not maximum. Bureaucratic structure in policy implementation of the e-ID card in Cimahi is considered quite good [7]. The other previous study analyzes the effectivity of single identity numbers in the implementation of KTP electronic, analyzes the performance of e-KTP in Sidorajo sub-district, and is the first step in implementing SIN. With SIN, one person will have only one identity/ identity Number (NIK) until they die. The NIK number in the e-ID card will be used as the basis for all data. With the e-ID card implementation, there is much progress, where there is already more complete population data [8]. The performance of e-KTP is very strategic for an integrated public service system and the primary source of information for the government to provide information to the public. The use of information technology by the government bureaucracy can help facilitate a series of community services. It includes information storage and management and mechanisms delivery of information from the organizers to the public and vice versa in oral and written form and presented manually or electronically such as the data in the e-ID card [9]. Every researcher has shown how e-KTP is helpful in every way.

This research used to discuss the application of a single identification number in need of population administration using only one card that can be efficient and saves on spending on a blank identity card. The e-KTP chip interface meets the ISO 14443A or ISO 14443B [10], e-KTP form, an intelligent card, Biometric Technology, with this technology that can record the holder's biometric information, either fingerprints or different technology, would be encrypted on the card [11]. The 13.56 MHz RFID reader is used for reading the ID number on the E-KTP, AT mega328 microcontroller, a regulator of input/output circuits. The purpose of this research is to analyze the efficiency of the Single Identification Number on the identity card (e-KTP). This research method was a descriptive survey method to fill out the questionnaire to provide a reference to the efficiency of using a single identification number on the identity card (e-KTP).

2. Method
This research used the descriptive survey method. The survey method asked several respondents about their beliefs, opinions, characteristics, and behaviors that have occurred or are currently happening. Therefore, the survey method is used to know about applying for a single identification number on an identity card (e-KTP). To determine the efficiency of this study, the researchers conducted questionnaires. They took a sample using random sampling with the respondents' characteristics consisting of 17 years old and over, use of identity cards such as driving licenses, health BPJS, taxpayer-identification numbers, and Automatic Teller Machine (ATM).

3. Results and Discussion
A single Identification Number (SIN) is a unique identity that everyone owns. This identity contains various individual information such as personal information, family data, asset ownership, and others. It can be said SIN accommodates individual data related to financial

and non-financial matters. With only one unique number, the government can access many things about the identity of that individual. With the implementation of this Single Identification Number, it can produce a multifunction card that can be used for all transactions without carrying a different card. An electronic Identity Card is a document that contains demographic security system/control, whether from the administration or information technology based on a national population database [10].

3.1 The technological factor

Technological factors are necessary for the continuity and convenience of human life. The use of the SIN on E-KTP is one of the technical aspects that can make human life more manageable. From the questionnaire research conducted on 82 respondents (see Figures 1 and 2).
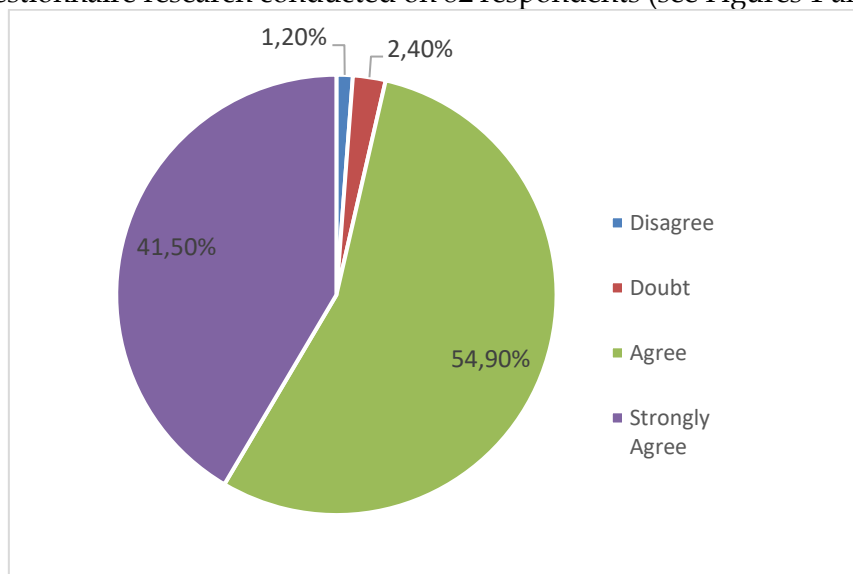

Figure 1. The results of a survey of respondents' interest in multifunctional cards

Figure 1 above shows that on 82 respondents, 41.50% strongly agree that the existence of a multifunction card will make it very easy to carry out transaction activities. Besides that, about 54.90% agree that a multifunctional card will make it very easy to carry out transaction activities. 2.40% is doubtful about the statement that the existence of a multifunctional card will greatly facilitate transaction activities. About 1.20% disagreed with the idea that the presence of a multifunctional card would greatly facilitate transaction activities. 0.00% strongly disagreed with the statement that the existence of a multifunctional card will significantly reduce transaction activities. The e-KTP structure consists of nine layers which will increase the security of conventional KTPs. The chips are planted between the white, transparent plastic on the top two layers (seen from the front). This chip has an antenna in it that will emit waves when swiped. The e-KTP detector will recognize this wave to see whether the KTP is in the right hands or not [12].

Figure 2 shows that 82 respondents were 47.60% who strongly agreed that they needed a multifunctional card. 43.90% agreed that they needed a multifunctional card. 7.30% were doubtful that they needed a multifunctional card. 1.20% disagreed that they needed a multifunctional card. 0.00% strongly disagreed they needed a multifunctional card.
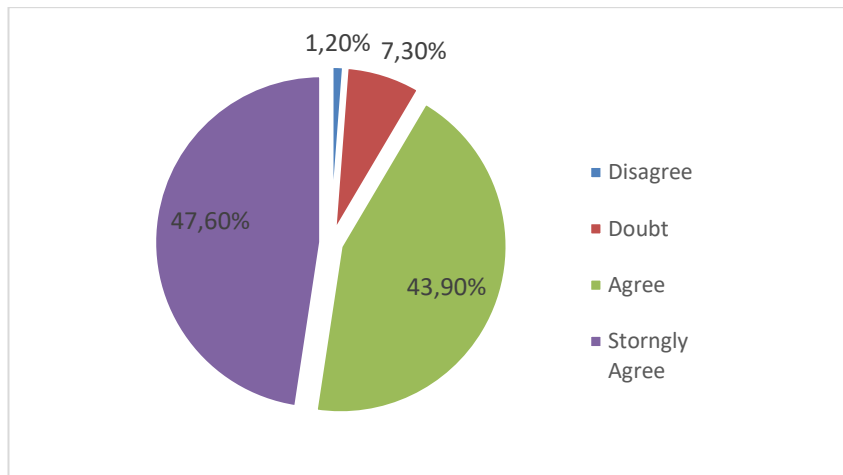
Figure 2. Survey results of respondents who require a multifunction card

From the results of research conducted on 82 respondents, many respondents wanted a SIN on their e-KTP. According to the community, they would be significantly facilitated by this technology. Currently, many people find it challenging to carry lots of cards, even though people need these cards to carry out administration and transactions. It is not to mention that if the community has a lot of cards, the district must do self-administration according to the card they have. This administrative process usually makes people lazy to do it because people must spend a lot of time managing this card's administration. They must spend time working, studying, and/or their precious gaming time. With the Single Identification Number, the public will be more able to streamline their time. Because of this Single Identification Number technology, people do not need to carry many cards or carry out personal data administration activities to get as many cards as they want. This Single Identification Number makes one card (e-KTP) multifunctional. This Single Identification Number makes all the community's cards have the same unique number that everyone will have. The benefits of having a Single Identification Number will significantly affect the Indonesian people's lifestyle, especially for people who have very little free time. This breakthrough will be of great interest and benefit.

3.2 The saving factor
Figure 3 shows the results of the 82 respondents who took the survey. There were 46.30% of respondents strongly agreed with the statement that the SIN use would help overcome the problem of scarcity of card blanks who participated in the survey. Then 40.20% of the respondents agreed that the use of SIN would help overcome card blanks' scarcity problem.
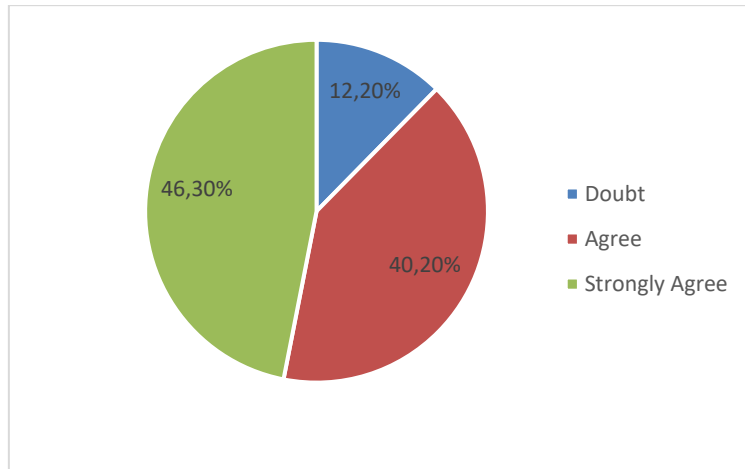
Figure 3. The Results of a Survey of Respondents about Saving on Blank Cards

There is 12.20% of respondents who doubt the statement that the use of the Single Identification Number will help overcome the problem of scarcity of card blanks. 0.00% disagreed about the idea that the utilization Single Identification Number will help solve the problem of the lack of blank cards. Information systems that have complexity, of course, have data storage (storage). Computerized database systems aim to maintain processed data or information and make the information available when needed [13].

Figure 4 shows the results obtained are. The results of the 82 respondents were 47.60% who strongly agreed with the statement that the single identification number technology as a multifunctional card would save government budgets.
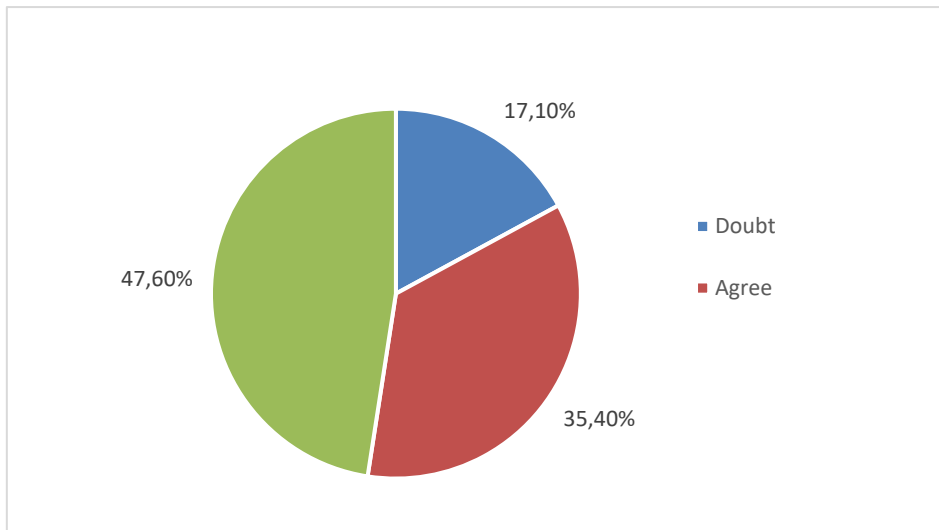

Figure 4. The results of a survey of respondents about budget savings

35.40% of respondents agreed that the single identification number technology as a multifunctional card would save the government budget. 17.10% results for those who doubt the statement that with the single identification number technology as a multifunctional card will keep government budget. 0.00% of respondents who disagree with the information, the

single identification number technology as a multifunctional card will save government budget.

People nowadays always use technology to help them carry out their daily activities. In this 4.0 Industrial Revolution Era, when viewed and reviewed, technologies have not performed optimally [14]. One of them is the use of the Single Identification Number, which is still ineffective. A Single Identification Number should be more valuable if it can make the community's cards multifunctional, as desired by the community today. With the existence of a Single Identification Number and making multifunctional cards, this breakthrough will significantly benefit the government and Indonesia's people. The government's benefits will feel that the government can minimize the problem of scarcity of blanks, and the government can also minimize the budget for card making, which will later be transferred to other budgets. Based on the results of a survey of 82 respondents, it would make it easier to carry out the administrative process through a related website and accessed by the internet. All the information desired in population administration services can be accepted readily and precisely by the community and the concept of the internet of things (IoT), making it easier for people to access procedures. Processes and other assistance needed in the form of population data collection used with the concept of the industrial revolution 4.0 in the big state data [15].

4. Conclusion

The community needs a breakthrough regarding a single card that can be used for various purposes of administrative and transaction activities. The solution to this community problem is that the e-KTP can be used as a multifunctional card, making it easier for the community to carry out administrative activities. Not only that, but the community is also facilitated by only doing one organizational activity so that people can immediately have the cards they want. It will significantly help the community to make the time they have more efficient. If the SIM card, NPWP, BPJS, and ATM functions can be combined into one card, namely the e-KTP, this will be a breakthrough needed by the community, helpful, and up to date. It can be realized by applying the Single Identification Number technology to the E-KTP. With Single Identification Number technology, SIM, NPWP, BPJS, AND ATM cards will have the same unique serial number, which will be listed on the E-KTP but will still be different for each individual. The benefits from applying this Single Identification Number will make it easier for the public to carry out administrative and transaction activities. Still, they can also help the government save blanks from solving the problem of scarcity and minimize the government budget for making cards that can later be moved to other budgets.

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