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Industry 4.0-Based E-KTP Services in Kalipucang District, Pangandaran Regency, Indonesia

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Abstract. The Industrial Revolution 4.0 brought many changes in all areas of life, as well as in the service of identity cards. The problem of this research is that residents still do not understand how to access this technology. The purpose of this research is to examine the application of industrial technology 4.0 in the electronic card service for residents at the Kalipucang District Office, Pangandaran Regency. The method used in this research is to use a descriptive research methodology with a qualitative approach. The results showed that the application of industry 4.0 technology to the ease of e-KTP services has been going well, seen from the convenience provided by the Pangandaran Disdukcapil through the basic concept of the internet of things (IoT), but it is not yet optimal.

Keywords: Industrial Technology 4.0, E-KTP, Service

1. Introduction

Currently, Indonesia has entered the era of the industrial revolution 4.0. This fourth industrial revolution is marked by the role of technology that takes over almost all industrial and economic activities and even government.

Service is a strategic thing, especially services provided by the government for the community. The responsibility and existence of a state-run by the government is to organize, regulate and manage everything that is needed by the community that cannot be managed privately or personally. Putra, HP et al [1].

A blurry portrait of services in Indonesia in late 2017 and mid-2019 was revealed by Ahmad Alam Saragih, a member of the Ombudsman, saying that the level of quality of public services is getting lower [2].

The connection with public services and the current era of the Industrial Revolution 4.0, is actually clearly contained in Law Number 25 of 2009 concerning Public Services in the Article which stipulates that Public Services should have a system that can provide convenience to the community [3].

One way to improve the condition of government services is still poor with good governance [4]. It is supported by [5] Holle (2011: 21) states that governments around the world are currently facing pressure from various parties to improve the quality of public services and increase active participation in

providing information to the public and are required to be more effective and efficient. This causes good governance to play an increasingly important role in all decision making, especially in providing services to the community. A traditional government that is synonymous with paper-based administration is starting to be abandoned and shifts towards the digital government in the form of the internet of things (IoT), 3D printing and big data Putra, HP et al [1].

Thus, the application of information technology in e-KTP services is expected to make services easy, cheap and fast.

The purpose of the study was to find out and describe the application of Industrial Technology 4.0 in e-KTP services at the Kalipucang District level in collaboration with the Population and Civil Registration Office (Disdukcapil) of Pangandaran Regency from the point of view of administrative ecology.

Public service

Public service according to Kotler (2003)[7] "Public Service" is an activity offered by one party to another and is basically intangible and does not result in un-ownership. The concept implies that public service is a government activity in serving the community collectively in all aspects. community life. Consequently, public services are not under the monopoly of a certain person or group.

Public services according to Roth (1926) are as follows: Public services are defined as services available to the public, either in general (such as in museums) or specifically (such as in restaurants) [8]. Public services according to Roth (1926) are as follows: Public services are defined as services available to the public, either in general (such as in museums) or specifically (such as in restaurants).[9]. Citizens hope that public services can serve with honesty and proper management of income sources, and can be accountable to the public. Fair and accountable public services generate public trust. It takes public service ethics as a pillar and public trust as the basis for realizing good government.

The provision of public services (public service delivery) is one of the main functions and duties of the government, both central and local. This is done by the government apparatus, namely the state civil apparatus (ASN). ASN is a representation of the government. Thus, if the services provided by ASN are of good quality and satisfy the public, then the government's image will be positive in the eyes of the public [10].

Industrial Technology 4.0

The term Industry 4.0 itself was officially born in Germany, precisely when the Hannover Fair was held in 2011 [11]. The German state has a great interest in this matter because Industry 4.0 is part of its development plan policy called the High-Tech Strategy 2020. The policy aims to keep Germany at the forefront of the manufacturing world (Heng, 2013) [12].

Several other countries also participated in realizing the concept of Industry 4.0 but used different terms such as Smart Factories, Industrial Internet of Things, Smart Industry, or Advanced Manufacturing [13]. Although they have different terms, all of them have the same goal, namely to increase the competitiveness of each country's industry in facing a very dynamic global market. This condition is caused by the rapid development of the use of digital technology in various fields.

The definition of Industry 4.0 varies because it is still in the research and development stage. German Chancellor Angela Merkel (2014) argues that Industry 4.0 is a comprehensive transformation of all aspects of production in industry through the merging of digital technology and the internet with conventional industry. [14]. Schlechtendahl et al (2015) emphasize the definition of the element of speed of information availability, which is an industrial environment where all entities are always connected and able to share information with one another [15]. Industry 4.0 is the integration of Cyber-Physical System (CPS) and Internet of Things and Services (IoT and IoS) into industrial processes including manufacturing and logistics as well as other processes [13].

According to Schlechtendahl et al (2015) [15] The notion of the industrial revolution emphasizes the element of speed in the availability of information, namely an industrial environment where all entities are always connected and able to share information with one another.

The existence of industrial technology 4.0, this has become an actual issue of public administration ecology. Because the concept of administrative ecology appears as a response to the differences in state administration systems in various places, even communities [16].

The application of information technology (IT) in the government environment has an important role in providing convenience to various aspects of public service activities. The implementation of IT into various public services in the government environment has strategic values, including IT implementation is considered capable of "conquering" the difficulties of changing work culture for the better, IT implementation is also able to overhaul a working system to the desired degree, namely so that the government becomes more transparent and accountable in providing its services, then through the utilization of IT, the government is able to deliver services that are oriented to the public interest. [17].

Some experts try to define information technology, the following are the definitions of information technology according to Sutabri (2014: 3)[18]. Information technology is a technology used to process data, including processing, obtaining, compiling, storing, manipulating data in various ways to produce quality information, namely information that is relevant, accurate and timely, which is used for personal, business, and government purposes. and is strategic information for decision making.

Another opinion from Indriantoro (2000; 102) [19] Information technology is a technology used to process data, including processing, obtaining, compiling, storing, manipulating data in various ways to produce quality information, namely information that is relevant, accurate and timely, which is used for personal, business and governance and is strategic information for decision making. Technology that utilizes computers as the main device to process data into useful information.

From some of the definitions above, it can be concluded that information technology is a combination of computerized and communication technology in the form of a system of software and hardware used to process, process, obtain, compile, store, manipulate data in various ways to produce quality information. in order to produce strategic information for decision making.

2. Methodology

The method used in this research is the descriptive qualitative research method. This method is a research method that utilizes qualitative data and is described descriptively. In addition, qualitative research is also research that produces descriptive data in the form of written words from people and observed behaviour. In this study, we will examine the application of Industry 4.0 in public services in the field of population administration in Kalipucang District using the theory of Chin and Thodd in C. Agung Purnama, & I. Widiyanto (2012) [20]. Regarding the dimensions of the usefulness of information technology through the application of industry 4.0 with aspects: (1) Application of technology in the field of electronic identity card (e-KTP) services that focus on: (a) Procedure, (b) Requirements, (c) Process. 2) The benefits of information technology in the service of electronic identity cards (e-KTP), include: (a) Convenience, (b) Benefits, (c) Effectiveness, (d) Productivity.

Data collection techniques used are observation, interviews, and literature study.

Table 1. Research Informants

Initials	Information
(SS)	Head of Pentantibum Section
(E S)	Staff at the Kalipucang District Office.
(Nung)	Residents of Kalipucang District
(Dew)	Residents of Kalipucang District

Source: Kalipucang District Office, Pangandaran Regency, 2021

3. Results And Discussion

A study of the application of industry 4.0 technology in public services in the field of population administration in Kalipucang District using the theory of Chin and Thodd in C. Agung Purnama, & I. Widiyanto (2012) [20] regarding the benefits of industry 4.0 technology with dimensions: (1) Application of technology in the service sector; and (2) the use of information technology. (1) Application of technology¹³ in the field of electronic identity card (e-KTP) services on (a) Procedures and processes, namely based on the results of interviews that the procedures and processes for e-KTP services in Kalipucang District are with the following procedures and processes: including procedures and processes services for making new e-KTPs, procedures and processes for making lost or damaged e-KTPs, procedures and processes for making e-KTPs for people who have moved to come. In the procedure and process for making an e-KTP, the community as an applicant can register first by filling out the form provided or can access it directly at the Pangandaran Disdukcapil and can also use the Pangandaran Disdukcapil application. And after that, submit it to the officer to check the data and print the stamp for the e-KTP, for a lost e-KTP the applicant brings a letter of loss from the local police and for a damaged e-KTP, it is enough to bring a damaged physical e-KTP. (b) Requirements, namely: every community or applicant who wants to make an e-KTP must meet the requirements that have been determined otherwise it will not be served. With the development of technology, the requirements can be accessed at the Pangandaran Disdukcapil. (2) The application of information technology in e-KTP services, namely: (a) Ease, namely the use of information technology to provide conveniences to local governments and the public, seen from e-KTP services that can be accessed easily through websites that have been connected and accessed with the internet so that all the desired information in administrative services will be faster, more precise and easier for the public. (b) Benefits, namely the application of community e-KTP technology is facilitated by the existence of NIK assistance which is useful for creating bank accounts, making SIM cards, and making BPJS cards and also the identity of the community becomes safer because of the Single Identity Number (SIN). which serves for security from criminal acts of falsification of community identity. (c) Effectiveness, namely the involvement of information technology in e-KTP services, seen from several printing processes with sophisticated printers that make printing one e-KTP card more functional and with the help of officers making the e-KTP service process more focused and good. (d) Productivity, namely the application of information technology can produce service productivity and speed up services in Kalipucang District. In addition to the data on procedures, processes, and service requirements involving information technology in e-KTP services, with the involvement of technology in providing¹² services, it is not impossible that the services provided to the community will be better and on target in accordance with the rules provided by the government. central and based on the prescribed Law [21].

In service, the application of technology is an important thing, because the application of technology can be a picture of whether public services have been successfully implemented or not. In the e-KTP service, the application of technology will produce procedures, requirements, and processes in the e-KTP service. The following is a discussion of the e-KTP service procedure.

In the application of technology in the aspects of procedures and processes for e-KTP services that have several procedures, namely service procedures for making new e-KTPs, service procedures and processes for making lost or damaged e-KTPs, and procedures and service processes for people coming and moving. To make a new e-KTP, the procedure and process can be accessed on the website or application of the Pangandaran Disdukcapil, namely the Pangandaran Regency Adminduk and can also come directly to the District Office. The researcher concludes that the e-KTP service process has been carried out by digitizing and can also come to the sub-district office. With digital services already carried out, this is supported by the help of the internet of things (IoT), the government does this to provide a fast and precise service process to the community. And also makes it easier for the public if there is damage to the e-KTP or want to make an e-KTP can be through the website or application, even though they are outside the city, people can still apply online. This is supported by a statement submitted by Savitri (2019:63)[22] internet of things (IoT) is a non-standard computing device connected to a network,

internet of things (IoT) devices can communicate and interact via the internet and can be monitored and controlled remotely.

The Population and Civil Registration Office of Pangandaran Regency provides convenience in the service of making e-KTP, if the applicant has met the specified requirements. With the latest information technology, requirements can be uploaded through the Pangandaran Disdukcapil website or application. Technology users make it easier for the community and the local government of Pangandaran Regency, especially Disdukcapil, to provide e-KTP services.

The conclusion above is supported by the statement submitted by Putra, HP et al (2013:6)[1] Service is a very important thing in a country, the success of managing a country is judged by how appropriate and good the services provided to the community are. With this, the requirements are a form of compliance with the Pangandaran Regency government in implementing laws and presidential regulations regarding the requirements for making e-KTP.

The application of information technology in e-KTP services, providing services becomes easy and fast. In addition, information technology can also be used as a digital-based information platform to make it easier for people to get information digitally. Supported by the statement of Chin and Thodd in C. Agung Purnama & I. Widiyanto (2012:4)[20] the second concept is the involvement of information technology, namely the dimensions of convenience, dimensions of benefits, dimensions of productivity and dimensions of effectiveness.

But unfortunately, according to one resident of Kalipucang sub-district, (Nung), that the application of technology for making e-ID cards is indeed very good, but it is very unfortunate because socialization has not fully reached the villagers. But the sub-district facilitates the existence of offline services, it really helps villagers who want to make e-ID cards using an application that has been set by the Disdukcapil. So residents don't need to worry about using the application because when they come to the sub-district office, the sub-district has directed the applicant.

So the researchers concluded that the application of industry 4.0 technology to the ease of e-KTP services has been going well. It can be seen from the convenience provided by the Kalipucang District Office through the basic concept of the internet of things (IoT) in the form of the official website.

The benefits of implementing information technology are numerous for e-KTP owners, including creating bank accounts, SIM cards, and BPJS cards. As well as NIK which functions as a bank account and SIM card.

4. Conclusion

Based on the results of research and discussion concluded that: 1). The application of industrial technology 4.0 in the field of electronic identity card (e-KTP) services in Kalipucang District, Pangandaran Regency has provided benefits, convenience and simpler services 2). The benefits of industrial technology 4.0 have been running, for example in printing labels assisted by printer printing, thereby saving time and costs in printing e-ID cards. 3). For service users that the application of industrial technology 4.0 to e-KTP services in the Kalipucang District, Pangandaran Regency, there are still many people who do not understand the procedures for accessing e-Ktp making services, so the Kalipucang District government should open access to the public to be able to consult regarding problems or procedures involved. not yet understood by the residents of Kalipucang Pangandaran. The researcher recommends that in terms of the effectiveness and productivity of the E-KTP service in Kalipucang District, Pangandaran Regency, it still needs to be improved in two dimensions of administrative ecology, namely from the aspect of the government and the community itself. One of them is through socialization, education, and advocacy, including by providing user guides in the application so that people are not confused in accessing it, as well as increasing the resources and competence of implementers

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