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Information security management system: Electronic apostille system security to ensure legal certainty across national borders

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A B S T R A C T

Public document legalization services in Indonesia are currently not carried out electronically, with the exception of electronic application registration (e-form) and electronic validation of apostille certificates (e-register). To adapt to the development and needs of a digital society or digital transformation, apostille legalization services must be carried out electronically (e-apostille). Based on legal provisions regarding the obligation of Electronic System Providers to organize electronic systems in a reliable, secure, and well-functioning manner, the electronic system created for the e-apostille service must be guaranteed to be reliable and secure in accordance with statutory regulations about the reliability and security of electronic systems in Indonesia. The research method used in this study is a quantitative and qualitative approach. This study uses a purposive sampling technique because sampling is carried out with certain considerations or criteria that must be met. The data collection method in this study was carried out by distributing questionnaires online through social media. In measuring respondents' answers, filling out the questionnaire was measured using a Likert scale. Statements are given a score of 1 for strongly disagree answers, a score of 2 for disagree answers, a score of 3 for doubtful answers, a score of 4 for agreed answers, and a score of 5 for strongly agreed answers. The data collection technique in this study uses a questionnaire by providing several written statements addressed to respondents, which will then be answered. Structural equation modelling is often called Partial Squares Structural Equation Modeling (PLS-SEM) with SmartPLS version 3.0. Using the normative juridical method, the results of this study emphasize the legal basis for the implementation of e-apostille legalization services. In addition, it also regulates the application of the obligation to use electronic system security reliability certificates through an information security management system by legal theories, the principle of legal certainty and the principle of benefit, as well as the aim of providing a sense of security in the use of information technology. This research concludes that developing regulations governing reliable and secure electronic apostille is necessary for certainty and convenience in Indonesia. Electronic apostille regulation has a positive and significant relationship with Electronic System Security, Digital signatures have a positive and significant relationship with Electronic System Security.

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1. Introduction

The increase in various life needs encourages the development of cross-border (international) civil legal relations between legal subjects of Indonesian individuals and legal entities (Indonesian Citizens-WNI) and foreign individuals and legal entities (Foreign Citizens-WNA). The unique nature of the state can increase the development between countries with the transfer of information or technology (Tan et al., 2021). As an example of a legal relationship between countries, a company that maintains and utilizes cross-border diplomatic relations will have a positive or beneficial impact on the company (Gao & Yu, 2022). In addition, there is an activity commonly carried out by the world community, which is now transformed, among others, trade. It has excellent potential in encouraging cross-border development, including for Indonesian society, who will

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be more advanced if they pay attention to this matter.(Yang et al., 2021) Reading the potential and patterns that will occur in the future regarding the transfer of information or technology will give several countries, especially Indonesia, the opportunity to utilize cross-border legal relations, especially the benefits in the field of trade, as previously explained.(Chen et al., 2022) Cross-border relations under civil law also include the need to pursue education, work, market halal products, marry foreigners, all of which are carried out in other countries, and needs related to law, especially the recognition and enforcement of court decisions in other countries, or vice versa. The duties and authority of the host or principal in civil law relations in the field of education are essential because they must maintain their cultural principles in providing assessments of cross-border students and issuing a diploma,(Haines, 2024) transcript or another public document that has been authorized by the authorized official and will be the main topic of discussion in this study.(Smith, 2023) Information exchange along with the use of technology, especially in the field of Internet in education, is a crucial thing; with a society that has been transformed and has broad access to information, it will significantly facilitate the movement and civil relations between countries, for example, regarding information about registration and admission. Also, information related to school entry requirements along with responses or comments from several school graduates regarding the matter (Mathews et al., 2023).

Public documents can also help those who want to work outside their home country, such as a doctor (Treister-Goltzman & Peleg, 2023). The utilization of public documents in cross-border relations based on technological developments is a focus that must be fulfilled given the growing mobility of the world community moving from one country to another (Sharpe & Elwood, 2024). In the case of public documents discussed earlier, validity is required so that they can be used by people across countries, stating that the documents used in the destination country have legal force or can be accounted for (Konvensi Den Haag, 1961). “Convention Abolishing the Requirement of Legalization for Foreign Public Documents” offers services to simplify the legalization of foreign public documents between countries using apostille certificates. This apostilles certificate can facilitate movement due to the simplified legalization process of public documents compared to the previous one (Crisindiana & Trihastuti, 2022). There are several public documents, such as diplomas, power of attorney, and others that can be apos-tilled by the Decree of the Kemenkumham RI Number M.HH-01.AH.03.01 of 2022, on the list of documents to which an apostille may be attached (Tan, 2021; Dimyati et al., 2021).

The apostille service has been officially implemented in Indonesia starting June 4, 2022, by the Director General of the Ministry of Law and Human Rights of the Republic of Indonesia (Kemenkumham RI) as the only designated Competent Authority. To implement the apostille in Indonesia (Hasanova, 2023), the apostille legalization service in Indonesia has been running for more than two years with a total number of apostille legalization applications of 268,619. The official launch of the apostille service was carried out on June 14, 2022, with a predetermined fee for each document requested, based on the Minister of Finance Regulation Number 101 / PMK.02 / 2022 regarding Types and Rates on Types of Non-Tax State Revenue Needs for Apostille Legalization Services Applicable to the Kemenkumham RI. The application of apostille legalization rates has gone through all considerations taking into account that several large countries have nominal prices that are not much different from those set in Indonesia (Hasanova, 2023). However, the implementation of the apostille which was initially intended to facilitate all affairs in the civil sector, especially public documents about convenience, is still considered half-hearted or not yet thorough in practice and reality. This is because the process that can be carried out electronically can only be done up to the application. In contrast, the acquisition of the apostille certificate still has to be done conventionally. The limitations and minimal public knowledge of technology have caused Kemenkumham as the sole authority to still enforce direct certificate acquisition, which the public can print at the AHU Innovation Gallery Volume 1 office in Cikini, AHU Innovation Gallery Volume 2 at Kuningan City Mall, and AHU Innovation Gallery Volume 3 at Lippo Mall Puri. Outside of the AHU Head Office / Innovation Gallery, there are 33 Regional Offices that can print Apostille Certificates. Considering the process is quite difficult, it can be ascertained that it is not easy for some people whose residence is not close to or far from the Innovation Gallery or Regional Office as a place to print Apostille Certificates. However, in practice, the process of collecting documents that have been signed is still not fast, using the method of sending specimens/samples of signatures to be deposited at the Directorate General of AHU to be used as an instrument to verify the identity of public officials in the apostille process (Herrmann, 2023). At the stage of the process of collecting specimens/samples of signatures of authorized officials in terms of public documents, if a problem is found that the Directorate General of AHU of Kemenkumham RI does not have a signature specimen, then the apostille legalization process will not be carried out or will be postponed(Defitri, 2022) This is until the appointed Competent Authority instructs the applicant for apostille legalization to complete the filing by collecting signature specimens first (Elisa et al., 2023). In this input stage, there are still various obstacles. Based on the interviews with the staff of the Directorate of Central Authorities and International Law (OPHI) of Directorate General of AHU of Kemenkumham RI, it was found that of the many public officials who have not submitted the specimens/samples of their signatures, only notaries have submitted theirs to be deposited at the Directorate General of AHU to be used as an instrument to verify the identity of public officials in the apostille process (Khan et al., 2021). This is also because there is an obligation to submit the specimen in question in accordance with Article 7 of UUJN (Lubis et al., 2022). Henceforth, verifying the authenticity of a public official's signature must be carried out by a qualified officer who has passed or has expertise in examining signatures based on graphonomy, as opposed to accuracy and security (Gatto, 2022). The Apostille Certificate, which contains the stamp and signature of an official from the Directorate General of AHU official as proof of attestation, is still in the form of a paper-based sticker that must be affixed to a public document, which may be damaged or lost. In addition, two or more pages of documents are also vulnerable to manipulation on the 2nd page, given that the apostille certificate sticker is only affixed to the initial page. The final result of public documents that have completed the conventional apostille

legalization process is paper-based, which also contains the risk of being damaged or lost, so it is not safer than electronic documents in the form of files.

Looking at the apostille registration process in Indonesia, which has an electronic system, researchers found that there was no enforcement of the reliability and security of the electronic apostille system to secure the electronic registration process. Moreover, there are no regulations in the form of laws (not including Presidential Regulations or Ministerial Regulations) that comprehensively regulates the electronic apostille service system (Wah & Hashim, 2021). This research is considered necessary because there are no laws and regulations governing the implementation of electronic apostille in Indonesia, thus providing legal certainty and expediency (Butarbutar, 2022). In addition, there have not been many studies examining electronic apostille, which makes researchers more interested in discussing this process. To answer the problems regarding the transition of the application of the apostille, which is still considered inefficient, researchers provide a solution to change the apostille system in Indonesia, which has not entirely implemented an electronic system or is still conventional. This research aims to create a digital system in the field of apostille that prioritizes efficiency based on Richard A. Posner's theory, namely the economic analysis of law, (Osorio, 2023) and making a regulation in the form of a law that can enforce the implementation of electronic apostille based on Gustav Radbruch's theory (Emha et al., 2022).

Hypothesis development

Relationship between Electronic apostille regulation and Electronic System Security

According to Yang et al. (2021), electronic apostille regulation has a positive and significant relationship with Electronic System Security, this result is in line with the research of Zajadlo et al. (2023) that Electronic apostille regulation has a positive and significant relationship with Electronic System Security. Another study by Osario (2023) showed the same results, namely that Electronic apostille regulation has a positive and significant relationship with Electronic System Security. Based on this study, a hypothesis was formulated

H_1: *Electronic apostille regulation has a positive and significant relationship with Electronic System Security.*

Relationship of Digital Signatures to Electronic System Security

According to Herrmann et al. (2023) Digital signatures have a positive and significant relationship with Electronic System Security, this result is in line with the research of Khadam et al. (2023) that Digital signatures have a positive and significant relationship with Electronic System Security. Another study by Khan et al. (2021) showed the same results, namely that Digital signatures have a positive and significant relationship with Electronic System Security. Based on this study, a hypothesis was formulated

H_2: *Digital signatures have a positive and significant relationship with Electronic System Security.*

2. Method

The research method used in this study is a quantitative and qualitative approach. This study uses a purposive sampling technique because sampling is carried out with certain considerations or criteria that must be met. The data collection method in this study was carried out by distributing questionnaires online through social media. In measuring respondents' answers, filling out the questionnaire was measured using a Likert scale. Statements are given a score of 1 for strongly disagree answers, a score of 2 for disagree answers, a score of 3 for doubtful answers, a score of 4 for agreed answers, and a score of 5 for strongly agreed answers. The data collection technique in this study uses a questionnaire by providing several written statements addressed to respondents, which will then be answered. Structural equation modelling is often called Partial Squares Structural Equation Modeling (PLS-SEM) with SmartPLS version 3.0. Hypothesis testing can be seen from the t-statistic value and probability value. For hypothesis testing, namely by using statistical values, then for alpha 5%, the t-statistic value used is 1.96. So, the criteria for accepting or rejecting the hypothesis are that Ha is accepted, and H0 is rejected if the t-statistic is> 1.96. To reject or accept the hypothesis using probability, Ha is accepted if the p-value < 0.05.

3. Results

The analysis technique used in this study is Path Analysis with the help of SmartPLS 3.0 software. The PLS method is used because it does not require a large sample, and the purpose of prediction where using the PLS approach is assumed that all variance measures are useful to explain Data analysis using SmartPLS software is carried out in two stages namely the measurement model and the structural model.

3.1 Convergent Validity Test

The factor loading number owned by the latent variable against its indicator functions to determine the validity of a construct. Based on the theory of the indicator factor, a loading value ≥ 0.7 is called valid. However, in developing the model, the agreement on the factor loading value between 0.5 - 0.6 can still be tolerated. In this study, a limit of 0.5 was used, so indicators

with factor loading values above 0.5 were declared valid. It can be seen in Fig 2 from the validity test at this stage that all items and factor loading values are all above 0.5, So they are declared valid.

3.2 Reliability test

The test is used to measure stable or constant measurement results and can be relied on/reliable. This indicates that a person's answer to the question is consistent or stable based on several tests through the internal consistency method, the composite reliability feature, and Cronbach's Alpha coefficient. The values used to obtain reliability consist of Cronbach's Alpha and Composite Reliability, which must exceed 0.70 for confirmatory research, and a value of 0.60 - 0.70 is still acceptable for exploratory research. The results of this test are as follows:

Table 1
Reliability Test

Variables	Cronbach's Alpha	Composite Reliability
Electronic apostille regulation	0.706	0.703
Digital signatures	0.732	0.732
Electronic apostille regulation	0.754	0.854

The conclusion of the data processing shows satisfactory numbers in Table 1; all variables are above the threshold of 0.70, indicating high consistency and stability of the instruments used. It is concluded that all constructs of this study have become fit measuring instruments and have good reliability.

3.3 Average Variance Extracted (AVE) Test

It shows how much variance in the diversity of manifest variables is owned by the latent construct, and a standard figure of 0.5 means good convergent validity, which can also be interpreted as an average above the indicator variant. The number 0.50 or above is the standard value of the variable AVE. The results of the research data processing show that all variables have good construct validity, as shown in Table 2.

Table 2
Average Variance Extracted (AVE) Test

Variables	Average Variance Extracted (AVE) Test
Electronic apostille regulation	0.754
Digital signatures	0.732
Electronic apostille regulation	0.623

Based on the results of the average variance extracted (AVE) test, the AVE value for all variables was greater than 0.60, so it was concluded that all variables have good construct validity.

3.4 R-Square Analysis

This analysis is to determine the percentage of endogenous construct variability that may be explained by exogenous construct variability. This analysis also determines the goodness of the structural equation model. The higher the R-square value, the greater the exogenous variable can explain the endogenous variable, so the structural equation is better. Attached is the output value of the R Square value as follows:

Table 3
R-Square Analysis

Variables	R-Square
Electronic apostille regulation	0.800

Source: SmartPLS Analysis by Author, 2024

Based on the results of the R-Square analysis in table 3, the R-Square value for the performance variable is 0.800 or 80%, meaning that the independent variables of Electronic apostille regulation and Digital signatures contribute 80% to Electronic apostille regulation variable while the remaining 20% is a contribution from other variables not discussed in this study.

3.5 Hypothesis Testing

It is intended to find a significant influence between independent variables and dependent variables by examining path coefficients that indicate parameter coefficients and statistical T significance values in Table 4. Parameter significance is estimated to provide an overview of the correlation between research variables. The standard for rejecting and accepting the proposed hypothesis is to use a probability of 0.05. The table below presents the estimation output for structural model testing:

Table 4

Hypothesis Testing

Hypothesis	T value	P value	Remark
Electronic apostille regulation has a positive and significant relationship with Elec-tronic System Security	6.812	0.000	Supported
Digital signatures have a positive and significant relationship with Electronic System Security	2.812	0.000	Supported

Fig. 1 presents the estimation output for structural model testing:

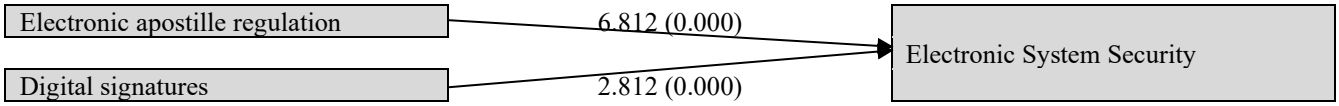

Fig. 3. Hypothesis Testing

We can conclude that:

Indonesia's electronic apostille regulation (e-apostille) must be consistent with the legal provisions requiring the use of the Electronic System Security Reliability Certificate, as outlined in the Law on Electronic Information and Transactions, PBSSN 8/2020, and the Government Regulation on Electronic System and Transaction.

The update of Indonesia's e-apostille regulation aims to provide a foundation of legal certainty and benefits for the Government and society in today's digital transformation era, ensuring that e-apostille practices will boost Indonesia's competitiveness and global standing.

Digital signatures on public documents, a mandatory requirement for e-apostille in Indonesia, have not yet been fully exploited in the apostille legalization process.

Electronic and Reliability Certificates are the essential prerequisites for e-apostille deployment in Indonesia throughout the digital age.

4. Discussion

The application of the cyber system in the field of public documents, namely apostille, is an urgency that cannot be underestimated. The electronic system will facilitate the mobility of Indonesian people who want to conduct cross-country civil legal relations. For example, when the public wants to apply for an apostille, it can be done electronically whenever and wherever the apostille applicant is located. In addition to registration, collecting public documents will be facilitated (Kitsios et al., 2023). There is no need to go to the regional office or AHU Innovation Gallery to pick up the documents that have been legalized by the apostille (Olesen et al., 2021). Prof. Ahmad M. Ramli stated that “the law must be a means of development for a society that is transforming into a digital society so that society reaches the same level of civilization as other nations in the world in the digital transformation era”. For this purpose, the law must also change and adapt to needs, instead of forcing people to follow laws that are not developing and are no longer suitable. The development, especially in electronic apostille, must be adjusted to the needs of the community, which has now transformed into the digital era. Moreover, the culture of society has increasingly shifted to the technological era.

Collecting and examining signature specimens which are currently carried out using a conventional system can be replaced or optimized by using information communication technology that checks the QR code of digital signatures of public officials on public documents more accurately and quickly.(Hasanova, 2023) The QR code in the digital signature is a QR code that is verified and guaranteed security by an electronic certification institution such as the Electronic Certification Center (BSrE) of the National Cyber and Crypto Agency (BSSN). In the ’process’ stage, by considering inputs that are in accordance with the development and needs of the digital society, especially in the field of legalization with the existence of digital documents to be legalized, the processing of public documents in question will be carried out more efficiently, namely fast, simple, and low cost. Thus, the theory of economic analysis of law (Faure & Yu, 2024; Pantos, 2023) proposed by Richard A. Posner must be the basis of thought in this case. The process of verifying the identity of public officials in e-apostille will be carried out only by verifying the digital signature contained in the public document requested for legalization through an electronic system or specially created application that is capable of checking in a short time. An example in practice is checking the validity of a digital signature on a letter, which is carried out by uploading the digitally signed file to the Electronic Certificate Provider website from the Ministry of Communications and Informatics (Kominfo) or https://tte.kominfo.go.id. Running the process electronically will increase the quantity and quality of performance by increasing the number of applications that can be processed and completed .

In the final result of the apostille, the use of technology also plays an important role, where conventional one that must be affixed to public documents, which are likely to be damaged or lost, is replaced by digital technology in the form of digital files. Thus, the output of the electronic public document legalization service (e-apostille) is no longer paper-based but in the

form of a pdf file (paperless), which is a file consisting of an apostille certificate and the public document itself. This will only be realized if the legal transformation theory-based thinking is used.(Andriychuk, 2022)

The information security management system, from the perspective of transformational legal theory, must be regulated and applied in implementing e-apostille as a legal and techno-logical instrument that will provide a means for change towards a digital society with the principle of prudence or security. This is because of the vulnerability of data, information, and electronic systems to attacks and disruptions from parties with bad intentions (hackers, crackers) (Tendikov et al., 2024). Therefore, security from a trusted third party is required by obtaining an Electronic System Security Reliability Certificate (Becerra-Suarez et al., 2024; Hanif et al., 2021). Based on Article 76 paragraph (1) of Government Regulation on Implementation of Electronic System and Transaction (PP PSTE), there are three Reliability Certificates: registration, electronic system security, and privacy policy. The electronic system security Re-liability Certificate, according to Article 76 paragraph (1) letter b of the PP PSTE, provides certainty that the process of delivering or exchanging data through the business actor's website is protected by using data exchange process security technology such as the secure socket layer (SSL) protocol.(Florido-Benítez, 2024; Hanif et al., 2021) This Certificate of Reliability guar-antees that there is a security system that has been tested during the data exchange process.(Xiang et al., 2024) The vulnerability seal is a certificate of reliability that guarantees that business actors can implement an information security management system concerning specific electronic sys-tem security standards based on the provisions of laws and regulations.(Prislan et al., 2020)

The National Cyber and Crypto Agency (BSSN) then updated the provisions of the PP PSTE based on the mandate of Article 24 paragraph (4) of the PP PSTE by making National Cyber and Crypto Agency Regulation (PBSSN) Number 8 of 2020, which states that its scope includes public and private electronic systems. According to Article 6 of PBSSN Number 8 of 2020, Electronic Systems are categorized into three types based on risk: Strategic, High, and Low. Meanwhile, Article 9 of PBSSN determines that Strategic SEs are required to implement three types of security standards, High SEs are required to implement two types of security standards, and Low SEs are required to implement 1 type of security standards. The legal status of the use of Electronic System Security Reliability Certificate has changed from merely “regulating” in the ICT Law and PSTE Regulation to “obligating” in PBSSN. This change arose, among others, from legal uncertainty or legal disharmony related to the existence of the Certificate of Reliability. Like the norm, the change proves that with the legal theory of transformation, BSSN, through PBSSN, changes the status of the law in order to change legal practices in society .

In today’s digital transformation era, given that the apostille legalization service is carried out by Directorate General of AHU of Kemenkumham RI, which is a government agency, it can be said that the e-apostille legalization service is a form of public service that must be aligned with regulations related to Electronic-Based Government Systems (SPBE, e-government). This is regulated in Presidential Regulation Number 95 of 2018 concerning Electronic-Based Government Systems (Perpres SPBE). The dictum of the Perpres SPBE states that SPBE regulations are needed to achieve efficient, transparent, and responsible government, together with high-quality and dependable public services. Based on this SPBE regulation, the regulation and supervision of digital government systems on a national scale can improve the integration and effectiveness of electronic government systems.

The Perpres SPBE was then complemented by several implementing regulations related to the security of the e-apostille system namely PBSSN Number 8 of 2020(Hashim, 2024) and PBSSN Number 4 of 2021 concerning Guidelines for SPBE Information Security Management & SPBE Security Technical Standards & Procedures. The efforts to provide a legal basis for the change or transformation of digital society are then further strengthened by the creation of PBSSN No. 4 of 2021(Iong & Phillips, 2023), in which Article 4 paragraphs (2) & (5) include Certificates of Control (Identity Registration, Electronic System Security, and Privacy Policy) as part of the external scope of SPBE Information Security management (Akimov & Kadysheva, 2023).

The absence of e-apostille regulations in Indonesia shows that there is no legal certainty in using or applying the e-apostille because there are no positive written legislation laws. Conversely, with the existence of e-apostille regulations in Indonesia [40], according to Gustav Radbruch, the theory of certainty to regulate e-apostille in Indonesia law must include four main things, namely (Zajadło, 2023):

“First, the law is positive, meaning that positive law is legislation. Second, the law is based on facts, meaning it is based on reality. Third, the facts must be formulated clearly to avoid confusion in interpretation and be easy to implement. Fourth, positive law should not be easily changed”.

The following analysis can be made based on the previous interpretation by Gustav Rad-bruch. First, the law is positive, meaning that positive law is legislation (Zajadło, 2023). As a rule of law, it must be obeyed as long as it contains justice and norms that promote the good. Furthermore, Gustav Radbruch stated that the value of justice is the "matter" that must be part of the rule of law, and the rule of law is the “form” that must protect the value of justice. Without justice, a rule does not deserve to be law. Based on the second postulate (Kuźmicz, 2021) therefore, legal certainty has not been implemented in the regulation of apostille legalization because not having an e-apostille regulation and not using an electronic system to implement e-apostille seems to deny the development of ICT in Indonesia, (Nam & Choi, 2024) with cyber law as a legal basis (ICT Law, Perpres SPBE, SPK Law, PBSSN 8/2020 and PBSSN 4/2021). Likewise, it can be said that there is no legal

certainty with the incompatibility of the apostille arrangement with cyber law because it has not been carried out electronically, so it can lead to errors in interpretation and even contradictory norms in the regulation.

Legal certainty is integral to the law, primarily written legal standards. According to Fence M. Wantu, “law without the value of legal certainty will lose its meaning because it can no longer be used as a behavioral guide for everyone”. Legal certainty is a condition (state), position, or regulation that is certain. The law must be specific and fair. It must be a code of ethics and justice that society deems reasonable because law can function only when it is applied fairly and reliably.

Legal certainty, Arifin et al. (2023) explained previously, is closely related to the harmonization between law and technology. According to Article 3 of the ICT Law, the utilization of information technology and electronic transactions is based on legal certainty, benefits, precautionary, good faith, and freedom of choice regarding technology or technology neutrality. Based on these provisions, the principle of legal certainty about the utilization of ICT is intended so that everything that supports the implementation of ICT gets legal recognition both inside and outside the courtroom (Windiantina et al., 2022). The phrase "recognition outside the court" is crucial in recognizing practices that have taken place in the information society related to the utilization of ICT, which is subject to an ever-evolving technological regime. Based on the principle of legal certainty, it is necessary to have statutory regulations that regulate e-apostille and the obligation to apply the Electronic System Security Reliability Certificates as evidence of legal recognition outside the court, which are also used in court as a basis for resolving disputes in this field (Arifin et al., 2023; Butarbutar, 2022). The mandatory use of Electronic System Security Reliability Certificates based on PBSSN No. 8 of 2020 and No. 4 of 2021 must be ensured by regulations related to e-apostille legalization services that will be made in Indonesia. This will allow the legal status of the Electronic System Security Reliability Certificates to continue to run harmoniously. Given that the ICT Law has a domino effect on other laws that are not yet in line with and have not followed and accommodated ICT developments in Indonesian and global society, the harmonization of e-apostille-related regulations and practices with the ICT Law is essential in order to become a solid and definite foundation, and to provide benefits to the Indonesian people regarding e-apostille services. Harmonization is an effort to find harmony between the law resulting from the recognition process and the Indonesian legal system. This is necessary to operationalize the law resulting from the recognition process in the current Indonesian legal system. With harmonization, the law resulting from the recognition process will become a social fact (empirical reality or ius operatum). It is not a law that is conceptualized philosophical-ly-morally (aspired law or ius constituendum), nor is it a law that is only written (positivistic or ius constitutum) but cannot be implemented in the daily life of Indonesian society. Regarding legal updates related to e-apostille, harmonization with the ICT Law also needs to be carried out regarding the reliability and security of the e-apostille electronic system. This includes, among others, not only having to use an Electronic Certificate in the form of a digital signature on the Apostille Certificate based on Article 13, but also the application of a Certificate of Reliability to secure electronic systems as stipulated in Article 10, Article 15, and Article 16. Harmonization with the Presidential Regulation on SPBE must consider the principles of effectiveness, integration, continuity, efficiency, accountability, interoperability, and security, as stipulated in Article 2 of Presidential Regulation No. 95/2018 on SPBE.

Harmonization of laws related to e-apostille in Indonesia can also be done with the regulations and practices of other countries (Muhidin et al., 2023). The right to access digital public services has been declared as one of the digital rights of the European Union. One of the implementation is the utilization of e-apostille as a form of digital public service. Chapter 2 Article 7 of the Declaration of Digital Rights and Principles (European Digital Rights and Principles) states as follows:

“Everyone should have online access to vital public services in the EU. Nobody should be asked to provide data more often than necessary when accessing and using digital public services. We commit to :

a. ensuring that people living in the EU are offered the possibility to use an accessible, voluntary, secure, and trusted digital identity that gives access to a broad range of online services ;

b. ensuring wide accessibility and re-use of public sector information ;

c. facilitating and supporting seamless, secure, and interoperable access across the EU to digital public services designed to meet people’s needs effectively, including digital health and care services, notably access to electronic health records”.

E-apostille is one of the manifestations of protected rights in European countries. This can be understood by declaring the right to access digital public services as one of the digital rights in the EU. The European Union (EU) countries have a Declaration of Digital Rights and Principles that has been agreed upon since November 15, 2022. The Declaration demonstrates the EU's dedication to a digital transition that is sustainable, secure, and reliable, with a focus on the people and their core values and fundamental rights. The declaration consists of six chapters, which guide policymakers and companies involved in new technologies and direct the EU's approach to digital transformation worldwide. The right to digital access to public services can be referred to as a human right development as stated in Article 41, the right to good administration in the Charter Of Fundamental Rights Of The European Union, declared on December 7, 2000. 31 Apostille Convention member countries have implemented e-Apostille or Digital Apostille. Among these 31 countries are several European Union member countries, including Austria, Belgium, Bulgaria, Denmark, Estonia, Ireland, Latvia, Romania, Slovenia, and Spain. In addition, some countries in the United States, including the state of Montana, Turkey, and South Korea, have also implemented

e-apostille. The regulation and implementation of e-apostille will be a big step for the state in providing welfare for the community through the fulfillment of digital public service rights so that the civilization of Indonesian society will be equal to other nations in the world. This concept will also regulate the e-apostille implementing agency, namely the Ministry of Law and Human Rights, through the Directorate General of AHU with the appointment as the Competent Authority in Article 2 of the Regulation of the Minister of Law and Human Rights of the Republic of Indonesia (PermenkumHAM RI) Number 6 of 2022.

The e-apostille legalization service is closely related to International Civil Law (HPI), given that the Apostille Convention originated from the Hague Conference on International Civil Law. In HPI, the “locus regit actum” principle is related to “vested rights”. The principle of locus regit actum more or less states that the validity of a formal act is measured based on the law of the place where the formal act is performed. The principle of vested rights means the state recognizes rights granted or established based on a foreign legal system. In 1978, Indonesia cooperated in the field of justice with the Kingdom of Thailand through a bilateral agreement. The bilateral cooperation was established long before the 1986 ASEAN Ministerial Understanding on the Organizational Arrangement for Cooperation in the Legal Field, resulting in the three aspects of cooperation above. In fact, very ideally, the 1978 Agreement on Judicial Cooperation between the Republic of Indonesia and the Kingdom of Thailand was designated as a model for subsequent agreements among other ASEAN member states.

In relation to the bilateral agreement between Indonesia and Thailand that abolishes apostille or, in other words, the apostille is no longer needed, it is recognized and implemented as a vested right. Similarly, it is regulated in Article 3, paragraph (2) of the Apostille Convention, which states as follows (Crisindiana & Trihastuti, 2022):

However, the formality mentioned in the preceding paragraph cannot be required when either the laws, regulations, or practice in force in the State where the document is produced or an agreement between two or more Contracting States have abolished or simplified it, or exempt the document itself from legalization. The latest development of international treaties managed by the Hague Conference (HCCH) is the convention of July 2, 2019, which refers to the Hague Convention on the Recognition and Enforcement of Foreign Court Judgments in Civil and Business Matters, 2019 (Crisindiana & Trihastuti, 2022). This convention can be in line with e-apostille considering that Article 12 paragraph (1) letter a of the convention stipulates that the requirements for recognition and enforcement of foreign court decisions must include a complete and legalized decision document. The principle of benefits regarding Electronic Apostille is regulated in ICT Law Article 3 that (Helitha Muchtar et al., 2023; Rajbhandari & Rana, 2023), “the principle of benefits” means the objective of utilizing Information Technology and Electronic Transactions that is to improve the information processing procedure to enhance society's welfare. Meanwhile, electronic transactions are defined in Article 1 number 2: “Electronic Transactions are legal actions carried out using computers, computer networks, and other electronic media” (Khadam et al., 2023). This benefit must be carried out properly considering the rapid digital transformation that is taking place in Indonesia. The current culture of Indonesian society has begun to transform digitally by utilizing speed, convenience, and affordability. This is regulated in Article 4 paragraph 12 of Law Number 25 of 2009 concerning Public Services which states that the implementation of public services is based on speed, ease, and affordability. However, as previously explained, there is a process that is still conventional and not fully electronic, so that those three aspects have not been fully achieved. In addition, it is complicated for the new society to accept the technology system. However, with outreach and training, the community will become dependent on technology, and it will not be easy to give up its convenience and practical use in life. One of them is the electronic apostille system, which still partly uses conventional methods and is not yet in the electronic form. The apostille document, commonly called an apostille certificate, is only attached to the public document section, and there is no regulation regarding e-apostille.

5. Conclusions

The increase in various life needs encourages the development of cross-border (international) civil law relationships between legal subjects of Indonesian individuals and legal entities (Indonesian Citizens-WNI) and foreign individuals and legal entities (Foreign Citizens-WNA). It is no exaggeration to say that the needs of Indonesian citizens can sometimes only be fulfilled by foreign countries and foreigners; in this case, apostille is present to facilitate the mobility of the Indonesian people. However, in the digital transformation era, conventional systems are no longer efficient in the field of apostille. The theory of economic analysis of law can be used as a theoretical basis for implementing e-apostille legalization services to replace the current Conventional Public Document Legalization service system in Indonesia and regulate the mandatory application of reliability certificates of electronic system security through an information security management system. In addition, the establishment of a comprehensive legal regulation regarding the entire electronic apostille process is required by Gustav Radbruch's Theory to adjust or harmonize with the notion of legal certainty and the concept of benefits, as well as the aim of providing a sense of security in the use of information technology. Thus, the development or expansion of e-apostille legalization services will be able to present a reliable and secure electronic system that operates properly through the use of Electronic System Security Reliability Certificates, which have become a mandatory national standard in Indonesia.

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