



## RESEARCH ARTICLE

**Interrelation Between Electronic Signature Laws In Malaysia And Vietnam In Electronic Transactions**

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ARTICLE INFO	ABSTRACT
Received: May 20, 2024	In the context of remarkable advancements in technology, regulations concerning electronic signatures in Vietnam have been established to timely meet the requirements of the integrated economy. Electronic signatures have also become crucial regulations within the legal framework of electronic transactions in many countries worldwide, including Malaysia. This article analyzes several provisions regarding electronic signatures such as identification of electronic signatures, conditions ensuring the safety of electronic signatures, principles of electronic signature usage, legal validity of electronic signatures, etc., to illustrate the interrelation between Malaysian law and Vietnamese law and thereby provide recommendations for Vietnam.
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**INTRODUCTION**

In traditional transactions, written form is the primary and widely used format. In these documents, alongside the content, there exists a confirmation signature or identification mark of the responsible party regarding the content of the document. Furthermore, subsequent stages such as packaging, delivery, and cross-referencing when necessary are easily performed and controlled by the document originator. The technique of identifying the signature of the document originator has also timely developed to aid in distinguishing between genuine and forged signatures.

It can be seen that traditional signatures have adequately met the document usage needs of entities. However, in the current context, with electronic commerce emerging as a forefront sector of the digital economy and the increasing demand for electronic transactions, the requirement for using electronic signatures as a replacement for traditional signatures is also raised. Electronic signatures are closely associated with the conclusion and execution of contracts through electronic means and have become an indispensable part of the electronic transaction process<sup>1</sup>. The application of electronic signatures helps parties save time and costs, enhances trust for businesses, and improves competitiveness in contract execution. For electronic signatures to be widely accepted and used in accordance with the requirements of electronic transactions, they need to possess all the characteristics of handwritten signatures and ensure the preservation of information when

<sup>1</sup> Phi Manh Cuong (2008), Legal Issues on Electronic Signatures in Vietnam, Journal of Law, Issue 8 (2008), pp.15-16.

transmitted through electronic means<sup>2</sup>. Therefore, electronic signatures must have technologies and techniques that guarantee the verification and integrity of the information contained in the transaction document transmitted via electronic means<sup>3</sup>. Electronic signatures play a crucial role in authenticating the parties who have conducted transactions and the consent of the parties regarding the transaction content. This necessitates the completion of a legal framework regarding electronic signatures to establish a basis for their application in practice.

In Vietnam, the Law on Electronic Transactions 2005 was promulgated, marking the first legal document regulating electronic contracts and laying the legal foundation for the use of electronic signatures. However, the increasing demand for electronic transactions across all sectors of life, coupled with the global trend of electronic commerce development, has led to some deficiencies and inadequacies in this legal document, rendering it less applicable in practice. The Law on Electronic Transactions 2023 has been enacted with new provisions to address the shortcomings of the previous law, including regulations concerning electronic signatures. This has established a solid legal framework to facilitate entities in efficiently conducting electronic transactions and contribute to Vietnam's integration into the global economy.

The completion of a legal framework regarding electronic signatures is a common requirement among many countries worldwide aiming for the development of global electronic commerce. Currently, over 60 countries worldwide have established their own legal frameworks and standards related to electronic signatures and digital transactions<sup>4</sup>. As the legitimate use of electronic signatures in transactions becomes increasingly prevalent, the number of countries enacting laws related to electronic signatures also rises<sup>5</sup>. Electronic signatures have also been recognized by the laws of many Asian countries, including Malaysia. Malaysia can be considered one of the countries with specific regulations governing digital signatures, which have been applied for a long time. Accordingly, regulations on digital signatures in Malaysia are promulgated and amended by the Digital Signature Act 1997 and the Digital Signature Regulations 1998. This legal document holds significant importance in providing a basis for entities to use digital signatures, ensuring the legality of electronic transactions in Malaysia. Furthermore, the Electronic Commerce Act 2006 signifies a significant change in contracting via electronic means, with provisions supplementing issues related to electronic signatures.

It can be observed that Malaysia, being a country in the Southeast Asian region similar to Vietnam, shares similarities in terms of economic, cultural, and political aspects<sup>6</sup>. However, Malaysia has long-standing legal provisions regarding electronic signatures, specifically regulated by separate

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<sup>2</sup> Tran Van Bien (2012), *Electronic Contracts under Vietnamese Law*, Justice Publishing House, Hanoi, p. 32.

<sup>3</sup> Azar Ishak (2020), *Tandatangan digital sah ke di Malaysia?* <https://asklegal.my/p/tandatangan-digital-sah-malaysia-akta-kontrak-sms>, Retrieved 14/12/2023.

<sup>4</sup> State Organization Journal (10/2022), *Legalization of Electronic Signatures - an Essential Trend in the Digital Economic Era*,

<https://tcnn.vn/news/detail/56142/Luat-hoa-chu-ky-dien-tu---xu-huong-tat-yeu-trong-ky-nguyen-kinh-te-so.html>, accessed on 16/12/2023.

<sup>5</sup> *E- Commerce and economic Development in Libia - Thesis Philosophy of Author Abdalla Hamed* ( Wales University, USA) 4/ 2005, p 17.

<sup>6</sup> Hang Linh (3/2023), *Vietnam - Malaysia: Two Similar Economies and Complementary to Each Other*, <https://www.vietnamplus.vn/viet-nam-malaysia-hai-nen-kinh-te-tuong-dong-va-bo-sung-cho-nhau-post853940.vnp>, accessed on 22/12/2023.

documents. Based on this foundation, the author conducts research and comparison to identify the correlation between Malaysia's and Vietnam's regulations governing electronic signatures, thereby providing recommendations to contribute to the evaluation and improvement of electronic signature legal provisions in Vietnam.

## 1. Provisions regarding the identification of electronic signatures

In contrast to traditional transactions, the information exchanged by parties in electronic transactions is conducted through electronic means. Among these, electronic signatures play a crucial role in expressing and confirming the intentions of the parties regarding the content agreed upon in electronic transactions, replacing traditional signatures. In the process of developing laws on electronic commerce, establishing legal regulations on electronic signatures is of utmost importance. The most prominent feature of electronic signatures is their authentication, which is manifested in two aspects: the signing party's identity and the expression of the signing party's consent to the agreed-upon content in the transaction<sup>7</sup>. Therefore, provisions regarding electronic signatures are closely tied to the authenticity of electronic signatures concerning data messages.

In Vietnamese law, electronic signatures were first recognized in the Law on Electronic Transactions 2005, which directly regulates matters related to electronic transactions between parties. The Law on Electronic Transactions 2005 serves as the foundation for electronic commerce activities, including the specific implementation of electronic signatures in Vietnam based on legal provisions. The Law on Electronic Transactions 2005 stipulates: "An electronic signature is created in the form of letters, characters, numbers, symbols, sounds, or other forms using electronic means, attached to or combined with a data message in a manner that can verify the signer of the data message and confirm their consent to the content of the signed data message"<sup>8</sup>. In line with this spirit, the Law on Electronic Transactions 2023 continues the provisions regarding electronic signatures and presents them in a more general manner. According to the Law on Electronic Transactions 2023: "An electronic signature is a signature created in the form of electronic data attached to or combined with a data message to confirm the signer's identity and affirm their consent to the data message"<sup>9</sup>.

It can be observed that Vietnamese law acknowledges electronic signatures with two important functions: confirming the identity of the signatory and affirming the signatory's consent to the content agreed upon by the parties in electronic transactions. While the Law on Electronic Transactions 2005 lists various forms of electronic signatures such as letters, characters, numbers, symbols, sounds, or other forms using electronic means<sup>10</sup>, the Law on Electronic Transactions 2023 provides a more general provision stating that a signature is "created in the form of electronic data"<sup>11</sup>, with similar characteristics to those stipulated in the Law on Electronic Transactions 2005, namely, being "attached to or combined with a data message"<sup>12</sup>. The data message is defined as "information

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<sup>7</sup> Tran Van Bien (2012), *Electronic Contracts under Vietnamese Law*, Justice Publishing House, Hanoi, p. 123.

<sup>8</sup> Clause 1, Article 21, *Electronic Transactions Law 2005*.

<sup>9</sup> Clause 11, Article 3, *Electronic Transactions Law 2023*.

<sup>10</sup> Hai Viet (7/2023), *Some New Points of the Electronic Transactions Law (amended) and Prohibited Acts in Electronic Transactions*, *Democracy and Law Journal*, <https://danchuphapluat.vn/mot-so-diem-moi-cua-luat-giao-dich-dien-tu-sua-doi-va-cac-hanh-vi-bi-cam-trong-giao-dich-dien-tu>, accessed on 16/12/2023.

<sup>11</sup> Ministry of Justice (7/2023), *Some New Points of the Electronic Transactions Law 2023*, <https://moj.gov.vn/qt/tintuc/Pages/van-ban-chinh-sach-moi.aspx?ItemID=4127>, accessed on 16/12/2023.

<sup>12</sup> Phi Manh Cuong (2022), *Legal Framework for Electronic Commerce in Vietnam*, Master's Thesis in Law, Hanoi Law University, p. 75.

generated, sent, received, and stored using electronic means”<sup>13</sup>. Based on the regulations regarding electronic signatures, the Law on Electronic Transactions 2023 specifies that data can be symbols, written characters, numbers, images, sounds, or similar forms, and electronic data is “data generated, processed, and stored using electronic means”<sup>14</sup>. Additionally, electronic means refer to “hardware, software, information systems, or other media operating based on information technology, electrical, electronic, digital, magnetic, wireless transmission, optical, electromagnetic, or similar technologies”<sup>15</sup>. Thus, from the comprehensive definition of electronic signatures, the Law on Electronic Transactions 2023 includes detailed provisions to clearly delineate regulations regarding electronic signatures, contributing to ensuring effective application in practice. Therefore, electronic signatures can be understood as a piece of information accompanying data generated, processed, and stored using hardware, software, information systems, or other media operating based on information technology, electrical, electronic, digital, magnetic, wireless transmission, optical, electromagnetic, or similar technologies, or attached to information generated, sent, received, and stored using electronic means, with the aim of verifying the signatory of the data message and confirming their consent to the signed content<sup>16</sup>.

Differing from Vietnam, electronic signatures in Malaysian law are regulated under the Digital Signature Act 1997 and the Digital Signature Regulations 1998. However, the concept of electronic signatures is not explicitly expressed in these documents; instead, the term "digital signature" is used. It wasn't until the Electronic Commerce Act 2006 that the concept of electronic signatures was specifically articulated. Accordingly, the Electronic Commerce Act 2006 defines: “An electronic signature is any letter, character, number, sound, or any other symbol or any combination thereof created electronically by a person for use as a signature”<sup>17</sup>. Malaysian regulations regarding electronic signatures bear some resemblance to those in Vietnam's Law on Electronic Transactions 2005, which enumerate various forms of electronic signatures and stipulate the requirement for being "created electronically," akin to the provision of "attached to or combined with a data message" in Vietnamese law. Moreover, the concept of electronic signatures in Malaysian law also indicates the usage by a person as a signature. Thus, the definition of electronic signatures in the Electronic Commerce Act 2006 does not embody the two functions as in Vietnamese legal provisions, which are recognizing the user of the electronic signature and acknowledging the user's confirmation of the content agreed upon by the parties in electronic transactions. However, this remains one of the necessary conditions for determining electronic signatures in Malaysia through the requirement that electronic signatures must fully identify the signer and indicate their full consent to the information related to the signature<sup>18</sup>.

It can be observed that the provisions regarding electronic signatures in Vietnamese law exhibit similarity to those in Malaysian law. In Vietnam, provisions regarding electronic signatures are expressed in a more general manner, adequately reflecting the essential functions of electronic signatures within the concept, whereas Malaysian law lists the forms of electronic signatures and

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<sup>13</sup> Clause 4, Article 4, Electronic Transactions Law 2023.

<sup>14</sup> Clause 7, Article 3, Electronic Transactions Law 2023.

<sup>15</sup> Clause 2, Article 3, Electronic Transactions Law 2023.

<sup>16</sup> Pierre Paul-Lemyre, Sofian Azzabi, Aletia Rowssos (2003), *The Legal Guide of Electronic Merchants, Information Technology and Training Institute - French Government Interagency*. (Translated by: Nguyen Canh Chat), p. 35.

<sup>17</sup> Article 5 of the Electronic Commerce Act 2006 of Malaysia.

<sup>18</sup> Article 9 of the Digital Signature Act 1997 of Malaysia.

regulates the acknowledgment of the signatory's consent to the agreed-upon content in a separate provision. The regulations on electronic signatures in Malaysian law are not clearly expressed in the two specific documents on digital signatures, namely the Digital Signature Act 1997 and the Digital Signature Regulations 1998, but are only articulated in the Electronic Commerce Act 2006. Furthermore, the regulations on electronic signatures in Malaysia also indicate two characteristics: being created with a corresponding private key and requiring the integrity of the data message. However, digital signatures as regulated by Malaysia are also electronic signatures used to verify the identity of the sender or signer and to ensure the accuracy and validity of the information in electronic transactions<sup>19</sup>. The Law on Electronic Transactions 2023 of Vietnam specifically stipulates that a digital signature is an electronic signature when it meets the conditions prescribed by law<sup>20</sup>. However, Malaysian law does not explicitly affirm this, although the provisions in the Electronic Commerce Act 2006 demonstrate that Malaysian law recognizes digital signatures as a form of electronic signatures<sup>21</sup>. Therefore, the provisions regarding electronic signatures in Vietnamese law appear to be more appropriate than those in Malaysian law, as electronic signatures in the Law on Electronic Transactions 2005 of Vietnam were stipulated first, followed by subsequent amendments and the development of regulations on digital signatures in other documents.

In addition, data message represents the form of information exchanged among entities in the electronic commerce environment. Regulations related to data messages are considered fundamental content of electronic commerce law in Vietnam as well as in other countries worldwide. According to Vietnamese law, the issue of identifying data messages is clearly and specifically regulated by directly defining the concept. Accordingly, the essence of a data message is information, and this information is formed, transmitted, received, and stored through electronic means<sup>22</sup>. Thus, a data message is akin to paper documents in traditional commerce, both containing information about electronic transactions. Vietnamese law also provides clear regulations regarding electronic means, encompassing not only the current electronic means in transactions in Vietnam but also foreseeing future technological developments in Vietnam and globally. Such comprehensive regulatory framework fosters stability and effective enforcement of Vietnamese law in the field of electronic commerce.

Under Malaysian regulations on electronic commerce, a data message is defined as information created, transmitted, received, or stored by electronic means. Here, electronic means encompass technologies utilizing electricity, optics, magnetism, electronics, biometrics, quantum, or similar technologies<sup>23</sup>. The nature of a data message in Malaysian law aligns with Vietnam's regulations in identifying electronic means as technologies or systems utilizing electricity, magnetism, optics, or similar technologies<sup>24</sup>. However, the terminology "data message" is not entirely consistent. Vietnam's Law on Electronic Transactions uses the term "data message" while Malaysia's Electronic Commerce

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<sup>19</sup> Suruhanjaya komunikasi dan multimedia Malaysia, Tandatangan Digital, <https://www.mcmc.gov.my/ms/sectors/digital-signature>, accessed on 13/12/2023.

<sup>20</sup> Clause 12, Article 3, Electronic Transactions Law 2023.

<sup>21</sup> Article 9 Electronic commerce Act 2006.

<sup>22</sup> Rokiah Kadir (2012), Malaysian DSA 1997: A Review of Some Unresolved Issues, *Asian Social Science*; Vol. 8, No. 12; 2012.

<sup>23</sup> Article 5 of the Electronic Commerce Act 2006 of Malaysia.

<sup>24</sup> Naoshi Takasugi (2016), "E-Commerce Law and The Prospects for Uniform E-Commerce Rules on the Privacy and Security of Electronic Communications.

Act employs the term “electronic message”<sup>25</sup>. The term "data message" used in Vietnamese law is accurately translated according to the EU Regulation on Data Message<sup>26</sup>. Therefore, the term "data message" in Vietnamese law is compatible with the concept of data messages in other countries more than the term "electronic message" in Malaysian law. This facilitates the development of electronic commerce in Vietnam, promoting integration with the world, and provides a robust legal basis for data message regulations in the international context.

Consequently, regulations on electronic signatures and data messages contribute to the advancement of electronic commerce within the scope of individual countries and create conditions for global e-commerce development. Vietnamese law demonstrates high comprehensiveness in regulating electronic signatures in terms of content and form, ensuring stability in Vietnamese legal provisions and timely capturing trends in global scientific and technological developments. The compatibility between Vietnamese and Malaysian regulations on electronic signatures establishes a solid legal framework for conducting electronic transactions between the two countries, facilitating the development of electronic commerce and promoting integration between the two countries and other nations in the region and globally.

## 2. Provisions Ensuring Security for Electronic Signatures

Electronic signatures are increasingly prevalent in electronic transactions and play a crucial role in authenticating the intentions of parties involved. Laws in various countries now recognize electronic signatures as having the same legal validity as handwritten signatures, and in some cases, even as handwritten signatures combined with seals<sup>27</sup>. The security and authenticity of electronic signatures serve as the foundation for building trust among transaction parties and are key factors in affirming the significance of electronic signatures in electronic transactions. However, conducting transactions through electronic environments still carries the risk of fraudulent activities, which are often more complex in nature and scope compared to traditional commerce. Therefore, alongside recognizing the legal value of electronic signatures, laws in different countries also provide regulations aimed at ensuring the security of electronic signatures.

The Electronic Transactions Law of 2005 provides stringent provisions regarding the conditions for ensuring the security of electronic signatures. According to this law, an electronic signature is deemed secure if it is verified through a safety verification process agreed upon by the parties involved in the transaction and meets the following conditions: (i) The data generating the electronic signature is uniquely associated with the signatory within the context in which the data is used. (ii) The data generating the electronic signature is under the sole control of the signatory at the time of signing. (iii) Any alterations made to the electronic signature after the time of signing can be detected. (iv) Any alterations made to the content of the data message after the time of signing can be detected<sup>28</sup>. It is evident that the determination of secure conditions for electronic signatures, as stipulated in the Electronic Transactions Law of 2005, relies on the agreement of the transaction parties. Specifically, the parties agree on a safety verification process for electronic signatures, and ensuring such security requires that the data generating the electronic signature is uniquely

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<sup>25</sup> Section of the Digital Signature Act 1997 of Malaysia.

<sup>26</sup> Phi Manh Cuong (2022), Legal Framework for Electronic Commerce in Vietnam, Master's Thesis in Law, Hanoi Law University, p. 86.

<sup>27</sup> Kiet Linh (11/2021), When Were Electronic Signatures Applied in Countries? Hanoi Labor Newspaper, <https://laodongthudo.vn/chu-ky-dien-tu-duoc-ap-dung-o-cac-nuoc-tu-khi-nao-132364.html>, accessed on 20/12/2023.

<sup>28</sup> Article 22, Electronic Transactions Law 2005.

associated with the signatory and under the signatory's control at the time of signing. These conditions aim to ensure the function of the electronic signature in reflecting the signatory's intention regarding the content agreed upon by the parties in that transaction. Furthermore, electronic signatures must not be subject to alterations in either form or content of the data message before and after the time of signing.

In addition to the conditions ensuring the security of electronic signatures, the law also regulates the conditions for ensuring the security of digital signatures. In compliance with these conditions, a digital signature is considered a secure electronic signature. These conditions include: (i) The digital signature is generated within the validity period of the digital certificate and is verified using the public key recorded on that digital certificate. (ii) The digital signature is created using the corresponding private key to the public key recorded on the digital certificate issued by organizations such as the National Digital Signature Authentication Service Provider, Government specialized digital signature authentication service provider, Public digital signature authentication service provider, etc. (iii) The private key is solely under the control of the signatory at the time of signing<sup>29</sup>. Similar to the provisions regarding electronic signatures, digital signatures must also be under the control of the signatory at the time of signing. This provision aims to affirm the exclusive intention of the signatory to use the electronic signature and ensures that the use of the electronic signature is subject to the control of the signatory themselves.

The Electronic Transactions Law of 2023 introduces no direct provisions concerning security conditions for electronic signatures as found in the Electronic Transactions Law of 2005. Instead, the Electronic Transactions Law of 2023 stipulates measures for ensuring security when using digital signatures and specialized electronic signatures<sup>30</sup>. According to the Electronic Transactions Law of 2023, a specialized electronic signature is one established by an entity or organization for its own activities, in accordance with its functions and tasks. Such specialized electronic signatures are created by the respective entity or organization and are not intended for commercial electronic signature services. The security assurance of specialized electronic signatures is demonstrated by being certified for safety by the Ministry of Information and Communications. Entities or organizations utilizing specialized electronic signatures must register with the Ministry of Information and Communications to obtain certification for the secure use of specialized electronic signatures when transacting with other organizations or individuals or when requiring recognition of the safety of such specialized electronic signatures<sup>31</sup>. Furthermore, the Electronic Transactions Law of 2023 outlines the conditions that specialized electronic signatures must meet and the necessary conditions for digital signatures when used as electronic signatures<sup>32</sup>. These conditions also serve as provisions ensuring the security of electronic signatures as stipulated in the Electronic Transactions Law of 2005. Alongside these conditions, the Electronic Transactions Law of 2023 specifies that when digital signatures are used as electronic signatures, they must additionally meet conditions such as being secured by digital signature certificates and ensuring that the means of creating digital signatures safeguard the data used for creating digital signatures from being disclosed, collected, or used for the purpose of forging signatures. Moreover, the data used for creating digital signatures must be usable only once and must not be altered.

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<sup>29</sup> Article 9, Decree 130/2018/NĐ-CP.

<sup>30</sup> Article 25, Electronic Transactions Law 2023.

<sup>31</sup> Pham Thanh Binh (6/2023), "The effectiveness of applying digital signatures in electronic commerce activities", *Financial Journal*, <https://tapchitaichinh.vn/hieu-qua-ung-dung-chu-ky-so-trong-hoat-dong-thuong-mai-dien-tu.html>, accessed on 20/12/2023.

<sup>32</sup> Clause 2, Article 22, Electronic Transactions Law 2023.

Malaysia is not exempt from the general trend of linking provisions regarding electronic signatures with conditions ensuring their security. However, Malaysia's laws on electronic signatures through the Digital Signature Act 1997 and the Digital Signature Regulation 1998 do not directly stipulate the safety conditions required for electronic signatures but instead indirectly through digital certificates. Accordingly, a secure digital signature is one verified by a legally valid digital certificate<sup>33</sup>. Thus, determining the safety of a digital signature is demonstrated by the subject using a legitimate digital certificate verified by authorized agencies as per legal regulations. Additionally, to ensure the security of digital signatures, the Digital Signature Act 1997 mandates that certification authorities may only use approved digital signature schemes<sup>34</sup>. Furthermore, the Act also specifies conditions for digital signatures when used in place of conventional signatures, including being verified by referencing public keys listed in valid certificates issued by licensed certification authorities and being signed by the signatory with the intention of endorsing the message<sup>35</sup>. These provisions demonstrate the strict and systematic nature of ensuring the security of digital signatures as regulated by Malaysia.

The Law on Commerce of 2006 stipulates provisions regarding electronic signatures, while also outlining conditions for recognizing electronic signatures<sup>36</sup>. Accordingly, an electronic signature is attached or logically associated with an electronic message; it fully identifies the signatory and reflects their complete consent to the information related to the signature. These are two conditions that demonstrate the important and core characteristics of electronic signatures, namely being linked through electronic means and manifesting the signatory's intent or consent to the signed information. Additionally, the electronic signature must be sufficiently reliable for the intended purpose and circumstances. This provision illustrates that the reliability of an electronic signature is not bound by specific criteria but is determined depending on the purpose and necessary circumstances. However, to avoid vague application of the provisions, Malaysia specifically regulates the conditions for an electronic signature to be considered reliable and trustworthy. These include the electronic signature mechanism being linked and under the control of the signatory, and any changes made to the electronic signature or electronic document after signing must be detectable<sup>37</sup>.

Thus, although not directly specified as "security conditions" for electronic signatures, Malaysian law defines conditions deemed reliable for electronic signatures that are similar to provisions ensuring the security of electronic signatures in the Electronic Transactions Law of 2005, as well as the conditions to be met when a digital signature serves as an electronic signature under the same law. However, the Electronic Transactions Law of 2005 specifies that an electronic signature is secure when verified through a secure process agreed upon by the parties involved in the transaction, which lacks specificity and practical applicability. Moreover, this provision also poses challenges for the management of competent authorities when transaction parties have full discretion in agreeing on the safety assurance process for using that electronic signature. The Electronic Transactions Law of 2023 does not specifically stipulate ensuring security for electronic signatures but supplements provisions ensuring security when using specialized electronic signatures and conditions for other types of signatures such as Public Key Digital Signatures and Government-issued Specialized Digital Signatures. The Electronic Transactions Law of 2023 also retains provisions regarding security

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<sup>33</sup> Section 9 of the Electronic Commerce Act 2006 of Malaysia.

<sup>34</sup> Rokiah Kadir(2012), Malaysian DSA 1997: A Review of Some Unresolved Issues, *Asian Social Science*; Vol. 8, No. 12; 2012.

<sup>35</sup> Article 62 of the Digital Signature Act 1997 of Malaysia.

<sup>36</sup> Article 9 of the Digital Signature Act 1997 of Malaysia.

<sup>37</sup> Section 9 of the Electronic Commerce Act 2006 of Malaysia.



assurance for digital signatures<sup>38</sup>. Accordingly, the provision regarding security assurance for digital signatures in Vietnamese law is similar to that in Malaysian law, as the security of digital signatures is ensured through demonstration on the digital certificate as per Vietnamese regulations and the digital certificate as per Malaysian regulations, and is also assessed by competent authorities as per legal provisions. This provision is appropriate for ensuring state control and management of entities using digital signatures in transactions.

### **3. Provisions on the Principles of Using Electronic Signatures**

The principles of using electronic signatures are understood as enduring concepts that form the basis for employing electronic signatures in practice. The Electronic Transactions Law of 2005 provides specific provisions regarding the principles of using electronic signatures. Accordingly, the law allows transaction parties to agree on the principles of using electronic signatures. However, this agreement is only applicable when there are no other legal provisions, and the law also specifically outlines the content that parties can agree upon regarding electronic signatures. Consequently, parties may agree to choose whether to use electronic signatures for signing data messages during transactions; when using electronic signatures, parties may choose whether to use authenticated electronic signatures; at the same time, they may choose the organization providing authentication services for electronic signatures when agreeing to use authenticated electronic signatures. The Electronic Transactions Law of 2005 also stipulates that electronic signatures of state agencies must be authenticated by organizations providing electronic signature authentication services as regulated by competent state authorities.

The provisions regarding the principles of using electronic signatures are no longer specifically expressed in the Electronic Transactions Law of 2023. However, the spirit of the Electronic Transactions Law of 2023 still acknowledges the agreement of parties in using electronic signatures. Accordingly, when regulating electronic transaction development policies, the Electronic Transactions Law of 2023 ensures the voluntary nature of parties in choosing to conduct electronic transactions; they can freely agree on the choice of technology, electronic means, electronic signatures, etc<sup>39</sup>. The choice to use electronic signatures is a right agreed upon by parties during the electronic transaction process. However, this agreement must still comply with legal provisions, and in cases where the law has other regulations or does not allow parties to agree, parties must adhere to those regulations.

The use of digital signatures in Malaysia is recognized and meets requirements such as security, identity authentication, non-repudiation, and data integrity<sup>40</sup>. According to the provisions of the Digital Signature Act 1997, "unless permitted by this Act, no one shall waive or agree to limit the application of this Act"<sup>41</sup>. Additionally, the Digital Signature Act 1997 stipulates that "there is only one exemption from the application of this Act, which is exempting the licensing to the internal use of the certification authority and key pairs and must be approved by the Minister, all other cases must

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<sup>38</sup> Article 22, Electronic Transactions Law 2023.

<sup>39</sup> Article 4, Electronic Transactions Law 2023.

<sup>40</sup> Rozanah Ab Rahman (2021), Beza tandatangan digital dengan elektronik dalam menentukan identiti penandatangan dokumen, Universiti Putra Malaysia, <https://www.astroawani.com/berita-malaysia/beza-tandatangan-digital-dengan-elektronik-dalam-menentukan-identiti-penandatangan-dokumen-284822?> accessed on 14/12/2023.

<sup>41</sup> Section of the Digital Signature Act 1997 of Malaysia.

comply with the provisions of the Digital Signature Act<sup>42</sup>. Thus, unlike Vietnamese legal provisions, Malaysian law mandates that parties involved in electronic transactions must use digital signatures, and when used, digital signatures must meet the requirement of being authenticated by digital certificates issued by authorized certification authorities appointed by the Government to prevent impersonation and ensure secure authentication for electronic transactions<sup>43</sup>.

It can be observed that the provisions regarding the principles of using electronic signatures in Vietnamese law are appropriate. Electronic transactions are established and conducted based on the freedom of agreement among parties. Similar to traditional transactions, parties agree on the content of transactions according to their needs. Within this framework, the agreed-upon content must comply with legal provisions. Similarly, with the application of electronic signatures, as an effective measure supporting parties in signing electronic transactions, the law does not compel parties to use electronic signatures. However, the agreement on the content of electronic signatures must adhere to legal regulations. Additionally, when parties choose to use authenticated electronic signatures, the authentication of these electronic signatures is carried out by authorized agencies in accordance with legal regulations<sup>44</sup>. This provision is also similar to the regulations in Malaysian law, where the authority to authenticate electronic signatures is granted to authorized agencies and organizations. This contributes to enhancing the responsibility of authorized entities in verifying the legality of electronic signature usage and serves as a basis for controlling, monitoring, and ensuring the effective use of electronic signatures.

The use of electronic signatures is increasingly prevalent in practice, and Vietnamese law stipulates the use of electronic signatures based on the principle of agreement among parties. Vietnamese law also does not specifically stipulate cases where electronic signatures must be applied or not applied when entering into electronic contracts. In that spirit, it can be inferred that the recognition and application of electronic signatures extend to all electronic contracts in practice. Meanwhile, Malaysian law mandates the use of electronic signatures when entering into electronic contracts<sup>45</sup>. Additionally, the Electronic Commerce Act 2006 provides for certain cases where electronic signatures cannot be used, or in other words, Malaysian law obliges these cases to use handwritten signatures, such as power of attorney, wills, or transfer instruments<sup>46</sup>. Thus, Malaysian law emphasizes the safety of certain transactions by stipulating cases where electronic signatures are not applicable. These are typically transactions of significant importance or complexity, where the non-application of electronic signatures aims to ensure the proper execution of contract terms in practice and help mitigate disputes arising from contract formation. This provides an avenue for Vietnam to

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<sup>42</sup> Naoshi Takasugi (2016), "E-Commerce Law and The Prospects for Uniform E-Commerce Rules on the Privacy and Security of Electronic Communications", *Arizona Journal of International & Comparative Law* - Vol. 33 No.1.

<sup>43</sup> Victor Tuang Geng Yong & Samantha Hah Kai Di (6/2021), *Electronic & Digital Signatures in Malaysia*, <https://tcclaw.com.my/electronic-digital-signatures-in-malaysia/#:~:text=Paperless%20signatures%20are%20legally%20enforceable,frameworks%20to%20regulate%20the%20two>, accessed on 14/12/2023.

<sup>44</sup> Minh Quang (2005), *Basic Knowledge of Electronic Commerce*, Labor - Social Publisher, Hanoi, pp. 67, 17.

<sup>45</sup> Rokiah Kadir (2012), *Malaysian DSA 1997: A Review of Some Unresolved Issues*, *Asian Social Science*; Vol. 8, No. 12; 2012.

<sup>46</sup> Azar Ishak (2020), *Tandatangan digital sah ke di Malaysia?*, <https://asklegal.my/p/tandatangan-digital-sah-malaysia-akta-kontrak-sms>, accessed on 14/12/2023.

consider and enact specific legal provisions regarding the application of electronic signatures to facilitate more effective electronic transactions.

#### 4. Provisions on the Legal Validity of Electronic Signatures

Recognizing the legal validity of electronic signatures is a widely applied and increasingly developing trend in the context of electronic commerce's remarkable advancements today. The legal validity of electronic signatures is stipulated in the Electronic Transactions Law of 2005 and supplemented and perfected in the provisions of Article 23 of the Electronic Transactions Law of 2023<sup>47</sup>. Accordingly, Article 24 of the Electronic Transactions Law of 2005 determines the legal validity of electronic signatures by reaffirming the characteristics of electronic signatures as a method for creating electronic signatures that allows verification of the signatory and demonstrates the signatory's consent to the content of the data message; simultaneously, this method is reliable and suitable for the purpose for which the data message is created and sent. The Electronic Transactions Law of 2023 specifically acknowledges that: "Electronic signatures shall not be denied legal validity solely on the grounds that they are expressed in the form of electronic signatures." This provision has affirmed the use and legal validity of electronic signatures, which cannot be denied. Additionally, the law stipulates that specialized electronic signatures or digital signatures have legal validity equivalent to the handwritten signature of the individual in a paper document. Accordingly, Article 22 of the Electronic Transactions Law of 2023 classifies electronic signatures based on their scope of use, including specialized electronic signatures, public digital signatures, and government-issued digital signatures. Among these, the legal validity of electronic signatures is recognized as equivalent to the handwritten signature of the individual in a paper document.

Thus, the law has recognized the legal validity of all three types of electronic signatures, with specialized electronic signatures being electronic signatures specifically designed to ensure security, meeting the conditions for secure specialized electronic signatures as stipulated in the Electronic Transactions Law of 2023. Furthermore, in cases where the law requires documents to be confirmed by an authority or organization, this requirement is considered fulfilled for a data message if the data message is signed with a secure specialized electronic signature or digital signature of that authority or organization<sup>48</sup>. Alongside this, Decree 130/2018/ND-CP provides provisions on the legal validity of digital signatures. In cases where the law requires a document to have a signature, the requirement for a data message is considered met if the data message is signed with a digital signature and that digital signature is secured according to the regulations on securing digital signatures<sup>49</sup>. Moreover, in cases where the law requires a document to be stamped by an organizational authority, the requirement for a data message is considered met if the data message is signed by the digital signature of the organization or authority, and that digital signature is secured according to the regulations on securing digital signatures. Additionally, Vietnamese law also recognizes the legal validity of foreign electronic signatures and electronic certificates if they have a level of trust equivalent to that of electronic signatures and electronic certificates as regulated by the law. Determining the level of trustworthiness of foreign electronic signatures and electronic certificates

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<sup>47</sup> Article 23, Electronic Transactions Law 2023.

<sup>48</sup> Tran Quy (10/2023), Legal Value of Electronic Signatures, Vietnam Lawyer Electronic Journal, <https://svn.vn/gia-tri-phap-ly-cua-chu-ky-dien-tu-duoc-quy-dinh-the-nao-1697702148.html>, accessed on 20/12/2023.

<sup>49</sup> Decree 130/2018/ND-CP.

must be based on internationally recognized standards, international conventions of which Vietnam is a member, and other relevant factors<sup>50</sup>.

Similar to the regulations in Vietnamese law, according to Malaysia's Digital Signature Act 1997, documents signed with digital signatures compliant with this law will have legally binding validity akin to documents signed by handwritten signatures, seals, or any other marks<sup>51</sup>. A notable feature of electronic signatures in Malaysian law is the recognition of legality in electronic messages in commercial transactions. The use of electronic messages to meet legal requirements and facilitate commercial transactions through electronic means is permitted and encouraged<sup>52</sup>. The provisions regarding the legal value of electronic signatures in Malaysian law bear resemblance to those in Vietnamese law, reflecting the common notion that the legal validity of electronic signatures is equivalent to signatures in traditional transactions. Malaysian law stipulates "binding" when establishing the value of digital signatures, indicating the obligation of entities using digital signatures regarding their usage and the content signed in transactions. Additionally, according to Vietnamese law, the legal value of electronic signatures is deemed equivalent to the handwritten signature of the individual in a paper document. In contrast, Malaysian law specifies that the legal value of electronic signatures is binding like documents signed by handwritten signatures, seals, or any other marks. This demonstrates that the legal value of digital signatures in Malaysian law is more expansive than the regulations on electronic signatures and digital signatures in Vietnam. Accordingly, when stipulating that digital signatures are equivalent to various forms, including handwritten signatures, seals, or other marks, rather than just equivalent to handwritten signatures in paper documents.

In practice in Vietnam, besides personal signature forms, the law also recognizes seals as substitutes for signatures in cases where the signatory, witness, or interpreter is unable to sign due to disabilities or illiteracy<sup>53</sup>. However, it can be understood that Vietnamese law implicitly recognizes the legal value of seals when sealed according to the provisions of the Notarization Law as being equivalent to signatures. Naturally, the legal validity of electronic signatures is equivalent to the legal validity of personal signatures, including cases where seals are used due to the inability to sign as per the provisions of the Notarization Law. Despite this, Malaysian law also acknowledges that digital signatures are equivalent to other forms of marks alongside signatures and seals. In other words, the use of electronic signatures in Malaysian law is regulated with broader functions and applications than merely replacing handwritten signatures, as stipulated in Vietnamese law<sup>54</sup>. Thus, it can be seen that recognizing the legal value of electronic signatures is crucial, serving as the foundation for entities to conduct electronic transactions. Recognizing the legal value of electronic signatures encourages businesses and organizations to increasingly adopt electronic signatures, thereby meeting societal development needs, enhancing the efficiency of electronic activities, executing electronic contracts, and expanding the conditions for the country's economic development as well as integrating into international digital transformation models.

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<sup>50</sup> Clause 11, Article 3, Electronic Transactions Law 2023 Điều 26 Luật Giao dịch điện tử 2023.

<sup>51</sup> Section of the Digital Signature Act 1997 of Malaysia.

<sup>52</sup> Rokiah Kadir (2012), Malaysian DSA 1997: A Review of Some Unresolved Issues, Asian Social Science; Vol. 8, No. 12; 2012.

<sup>53</sup> Article 48, 3. Notarization Law 2014.

<sup>54</sup> Azar Ishak (2020), Tandatangan digital sah ke di Malaysia? <https://asklegal.my/p/tandatangan-digital-sah-malaysia-akta-kontrak-sms>, accessed on 14/12/2023.

## 5. Regulations on Electronic Signature Authentication

Electronic signatures signify the ability to relatively accurately identify the signatory, serving as an effective method used in contracts to replace traditional handwritten signatures. Ensuring the accuracy of electronic signatures is always paramount and becomes a focal point when entities opt to use electronic signatures in transactions. Consequently, the authentication of electronic signatures through electronic signature authentication services or organizations providing such services has emerged to meet the need for electronic signature authentication, contributing to ensuring the accuracy and safety of electronic signatures and enhancing the trustworthiness of entities using electronic signatures. Based on this, countries worldwide, when enacting regulations on electronic signatures, also include provisions on electronic signature authentication, which are considered fundamental conditions for using electronic signatures in economic transactions<sup>55</sup>.

Regulations on electronic signature authentication in Vietnamese law are closely linked to the provisions on electronic signatures stipulated in the Electronic Transactions Law 2005. These provisions have been amended and supplemented by the Electronic Transactions Law 2023 to align with the practical use of electronic signatures. Accordingly, the Electronic Transactions Law 2023 defines electronic signature certificates as data messages confirming the authentication of entities as signatories of electronic signatures. Electronic signature certificates for digital signatures are referred to as digital signature certificates<sup>56</sup>. The law also stipulates specialized public electronic signature authentication services as services for authenticating electronic signatures in official activities. Article 24 of the Electronic Transactions Law 2023 specifies that specialized public electronic signature certificates are managed and provided by organizations providing specialized public electronic signature authentication services in accordance with the laws on electronic transactions and public service authentication. Organizations providing specialized public electronic signature authentication services carry out activities such as issuing specialized public electronic signature certificates to confirm and maintain the validity of the specialized public electronic signature certificates of entities signing data messages; revoking specialized public electronic signature certificates; verifying the validity of specialized public electronic signatures and maintaining the validity status of specialized public electronic signature certificates; refraining from using technical barriers or technologies to restrict the verification of the validity of specialized public electronic signatures; providing necessary information for authenticating specialized public electronic signatures; collaborating with the national electronic authentication service provider to ensure the verification of the validity of specialized public electronic signatures; and issuing time stamps in official activities.

The use of specialized electronic signatures, secure electronic signatures, and the establishment of electronic signatures by organizations and agencies must not engage in business activities related to specialized electronic signatures. The Electronic Transactions Law 2023 stipulates that “in case organizations or agencies use specialized electronic signatures for transactions with other organizations or individuals or have a need for the recognition of secure electronic signatures, they must register with the Ministry of Information and Communications to obtain certification for secure

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<sup>55</sup> Duong Ngoc Hong (06/12/2020), "E-commerce in Economic Development in Vietnam", *Financial Journal*, <https://tapchitaichinh.vn/tai-chinh-kinh-doanh/thuong-mai-dien-tu-trong-phat-trien-kinh-te-tai-viet-nam-330340.html>, accessed on 16/12/2023.

<sup>56</sup> Pham Thanh Binh (6/2023), “The effectiveness of applying digital signatures in electronic commerce activities”, *Financial Journal*, <https://tapchitaichinh.vn/hieu-qua-ung-dung-chu-ky-so-trong-hoat-dong-thuong-mai-dien-tu.html>, accessed on 20/12/2023.

specialized electronic signatures”<sup>57</sup>. Additionally, the Electronic Transactions Law 2023 also specifies the conditions for foreign organizations to provide electronic signature authentication services; electronic signatures, electronic signature certificates recognized in Vietnam. Specific conditions include: being established and operating legally in the country of registration; having a technical audit report on the electronic signature authentication service system from a legally operating auditing organization in the country of registration; electronic signatures, electronic signature certificates provided by foreign organizations must comply with Vietnamese legal standards, technical standards for electronic signatures, electronic signature certificates as regulated by Vietnamese law or internationally recognized standards or treaties of which the Socialist Republic of Vietnam is a member; electronic signature certificates provided by foreign organizations must be based on fully verified identification information of foreign organizations or individuals; foreign organizations providing electronic signature authentication services must update the status of electronic signature certificates into the trusted electronic authentication service system of competent authorities in Vietnam; and have a representative office in Vietnam.

In addition, the conditions for recognizing foreign electronic signatures and electronic signature certificates in Vietnam include: Foreign electronic signatures and electronic signature certificates must comply with the standards, technical specifications for electronic signatures, electronic signature certificates as stipulated by Vietnamese law or internationally recognized standards or treaties of which the Socialist Republic of Vietnam is a member; Foreign electronic signature certificates must be based on fully verified identification information of foreign organizations or individuals<sup>58</sup>. It can be seen that the regulations on electronic signature authentication in Vietnam's Electronic Transactions Law are relatively comprehensive and systematic. This facilitates the establishment of electronic signatures in Vietnam's electronic transactions safely and efficiently, meeting the needs of users.

Similar to the provisions in Vietnamese law, Malaysian law also has specific regulations on electronic signature authentication in the Digital Signature Act 1997 and the Digital Signature Regulations 1998. The authentication of digital signatures aims to ensure security in legal matters related to electronic transactions and verify the use of digital signatures through certificates issued by authorized agencies in Malaysia<sup>59</sup>. According to the Digital Signature Act 1997, digital certificates issued by authentication agencies contain electronic information, wherein the identification of the digital signature is evidenced by the issuance of certificates by the authentication agency; they include the name and identification of the registrant; they contain the public key of the registrant; and they are digitally signed by the authentication agency<sup>60</sup>. Additionally, the law stipulates that authorized authentication agencies providing digital certificates also perform other related services in authentication activities, and specific conditions for conducting digital signature authentication activities are detailed, such as: (1) The entity conducting authentication must be in Malaysia or have partnership links within the scope of the 1961 Partnership Act; (2) have a registered office in Malaysia; (3) have reasonable liquid capital, as required by the supervisory authority, sufficient to establish or operate as an authentication agency; (4) Submit complete documentation to the audit authority with appropriate guarantees; (5) Use a reliable system for generating and managing key

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<sup>57</sup> Article 25, Electronic Transactions Law 2023.

<sup>58</sup> Article 26, Electronic Transactions Law 2023.

<sup>59</sup> Suruhanjaya komunikasi dan multimedia Malaysia, Tandatangan Digital, <https://www.mcmc.gov.my/ms/sectors/digital-signature>, accessed on 13/12/2023.

<sup>60</sup> Gwendoline Choy (5/2017), E-Signing: What You Need to Know, Donovan & Ho, <https://dnh.com.my/e-signing-what-you-need-to-know/>, accessed on 16/12/2023.

pairs and digital certificates; (6) Use approved digital signature schemes for generating key pairs or for creating and verifying digital signatures; (7) Follow operational procedures including authentication activity reporting, identity verification procedures for certificate applicants listed in the electronic certificate, and use of data storage agencies and timestamp service providers; (8) Only employ personnel meeting legal standards; (9) Comply with licensing requirements, standards, and technical requirements under the Digital Signature Act and these regulations<sup>61</sup>. It can be seen that Malaysia's regulations on digital signature authentication are relatively comprehensive and systematically address issues related to digital signature authentication activities, providing a specific basis for practical application.

In addition to complying with the conditions for licensing to provide authentication services, after being licensed, authentication agencies must also adhere to other strict regulations during typical operational activities such as: (1) Licensed authentication agencies must maintain and retain a reasonable amount of liquid capital to establish and operate as authentication agencies; (2) Licensed authentication agencies must maintain their operational procedures after being checked and are not allowed to make any significant changes to their operational procedures without written approval from the supervisory authority; (3) Licensed authentication agencies are only allowed to use approved digital signature schemes; (4) Licensed authentication agencies must establish, maintain, and retain necessary arrangements with data storage agencies and timestamp service providers recognized for the unit's purposes and for the needs of certificate applicants if the authentication agency does not provide these services; (5) Licensed authentication agencies must establish and maintain a secure infrastructure and database to protect private keys and for key distribution, key management, key storage, and key destruction; (6) Licensed authentication agencies must establish and maintain a secure system and database to store information and documents received from certificate applicants in accordance with the Digital Signature Act and these regulations"<sup>62</sup>. Besides the provisions on licensing for electronic signature application, Malaysian law also specifies specific conditions for electronic signature authentication agencies to help effectively implement the authority of authentication agencies and ensure compliance within the legal framework.

Thus, Malaysian law has introduced concepts and content of electronic signature authentication activities and specifically stipulated conditions for providing authentication services, including financial, personnel, licensing, auditing requirements, etc<sup>63</sup>. Along with this, Vietnam's Electronic Transactions Law 2023 has inherited content on electronic signature authentication regulations from other countries. The regulations on electronic signatures in Vietnamese law have laid down a basic legal framework for the use of electronic signatures in electronic transactions. However, compared to Malaysian law, Vietnamese law's provisions regarding conditions for organizations providing electronic signature authentication are more general and directive, leading to difficulties in practical application. Therefore, Vietnamese law needs additional guidance documents on conditions and application procedures for electronic signatures in practice.

## **6. RECOMMENDATIONS FOR VIETNAMESE LAW ON ELECTRONIC SIGNATURES**

Electronic signatures are increasingly playing a crucial role in concluding electronic contracts among parties. The laws of countries worldwide are focusing on developing and establishing regulations on electronic signatures, and Vietnam is no exception to this general trend. Compared to Malaysia,

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<sup>61</sup> Section of the Digital Signature Act 1997 of Malaysia.

<sup>62</sup> Section of the Digital Signature Act 1997 of Malaysia.

<sup>63</sup> Pierre Paul-Lemyre, Sofian Azzabi, Aletia Rowssos (2003), *The Legal Guide of Electronic Merchants, Information Technology and Training Institute - French Government Interagency*. (Translated by: Nguyen Canh Chat).

Vietnam is also a country in the Southeast Asian region and both have regulations on electronic signatures closely linked to the emergence of legal provisions on electronic commerce. Malaysia specifically regulates issues related to digital signatures in the Digital Signature Act 1997 and the Digital Signature Regulations 1998, while provisions on electronic signatures are recognized in the Electronic Commerce Act 2006. Accordingly, the regulations on electronic signatures, digital signatures in Malaysian law are expressed in a specific manner and demonstrate legal bindingness regarding the establishment of electronic signatures or digital signatures. According to Malaysian law, electronic signatures and digital signatures can be used interchangeably<sup>64</sup>. Electronic signatures are legally binding similar to handwritten signatures, and Malaysian law has specifically stipulated the conditions for applying electronic signatures and authentication conditions for electronic signatures in practice. This provides an effective basis for entities to apply regulations on electronic signatures as stipulated by Malaysian law.

Compared to Malaysia, regulations on electronic signatures in Vietnam were introduced later and are not specifically stipulated in a regulating document. However, electronic signatures, digital signatures in Vietnamese law are relatively tightly and specifically regulated. In order to meet the needs of entities and the requirements for the development of electronic commerce in practice, the Electronic Transactions Law 2023 was enacted and adjustments were made regarding electronic signatures, digital signatures in the Electronic Transactions Law 2023 as a basis for implementing electronic transactions in practice. Based on the correlation between regulations on electronic signatures in Vietnamese law and Malaysian law, Vietnam needs to absorb and learn from Malaysia's experience to improve regulations on electronic signatures in Vietnamese law, notably:

Firstly, Vietnamese law recognizes electronic signatures created in electronic data form, wherein the data can be symbols, writing, numbers, images, sounds, or similar forms. Currently, Vietnamese law has specific guidance on digital signatures as a form of electronic signatures; however, other forms of electronic data are not recognized. This creates limitations in applying electronic signatures in practice. It is necessary to have specific regulations and guidance for these forms to facilitate entities in conducting electronic transactions more conveniently and effectively, while also aligning with regulations on electronic data forms as stipulated by law.

Secondly, the Electronic Transactions Law 2023 stipulates the application of electronic signatures by parties based on the principle of mutual agreement<sup>65</sup>. Accordingly, entities have the right to agree on the use of electronic signatures in electronic transactions, and Vietnamese law does not bind the use of electronic signatures in electronic transactions or specify cases where electronic signatures cannot be used. Contrasting with regulations in Malaysian law, it can be seen that the application of transactions in Malaysia is subject to the constraint of using electronic signatures. Additionally, Malaysian law also specifies cases where electronic signatures cannot be applied to ensure safety and effectiveness in complex or high-value transactions in practice. Therefore, Vietnamese law needs to consider and enact appropriate regulations regarding the use of electronic signatures, such as in cases where the mandatory application of electronic signatures is required or where electronic signatures cannot be used, to ensure consistency and commitments when using electronic signatures.

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<sup>64</sup> Victor Tuang Geng Yong & Samantha Hah Kai Di (6/2021), *Electronic & Digital Signatures in Malaysia*, <https://tcclaw.com.my/electronic-digital-signatures-in-malaysia/#:~:text=Paperless%20signatures%20are%20legally%20enforceable,frameworks%20to%20regulate%20the%20two>, accessed on 14/12/2023.

<sup>65</sup> Article 4, Electronic Transactions Law 2023.



Thirdly, electronic signatures in Malaysian law are stipulated to have legally binding value like documents signed by handwritten signatures, seals, or any other symbols<sup>66</sup>. Accordingly, Malaysia recognizes electronic signatures used in various forms, not just as substitutes for handwritten signatures. Along with serving the function of replacing handwritten signatures, electronic signatures in Malaysia can also be used for other purposes. This provision is not reflected in Vietnamese law. Vietnam only recognizes the legal value of electronic signatures as equivalent to handwritten signatures in traditional transactions. However, Vietnamese law also has provisions regarding seal forms, which can be used as substitutes for handwritten signatures in certain cases according to the Law. Therefore, the issue arises as to the need to research and improve regulations in Vietnamese law regarding the forms of electronic signatures. Additionally, it is necessary to specifically recognize whether electronic signatures can be applied to replace fingerprinting forms in cases stipulated by law or not

Fourthly, regulations on electronic signatures are increasingly emphasized and improved by many countries. This context demands that Vietnam needs to further enhance its absorption and learning from the experiences in building and applying regulations on electronic signatures from countries worldwide, especially those with economies, societies, or legal systems similar to Vietnam, including Malaysia. Learning from the regulations on electronic signatures of other countries must be in line with the practical application in Vietnam and suitable for the conditions of economic and social development. Through this process, learning from other countries' experiences creates opportunities for Vietnam to integrate with the general trend of the world economy, ensuring the fulfillment of the needs of entities in electronic transactions in practice.

## 7. CONCLUSION

E-commerce is increasingly conducive to development and is a condition for facilitating electronic transactions. In this regard, regulations on electronic signatures enacted in many countries worldwide are closely associated with electronic contracts to verify the legality of contract content and demonstrate the intention of parties using electronic signatures. Vietnam and Malaysia are two countries with systems of regulations on electronic signatures, digital signatures specifically issued and applied in practice. Based on this foundation, the author provides evaluations and analyses of the correlation between regulations on electronic signatures in Vietnamese law and Malaysian law, thereby making recommendations to strengthen and improve regulations on electronic signatures in Vietnamese law.

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