

Phénoménologie du notariat hybride: l'être-professionnel du notaire marocain à l'ère de l'ubiquité numérique

Phenomenology of hybrid notarial practice: The professional identity of the Moroccan notary in the era of digital ubiquity

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Abstract:

In Morocco, the reliability of property-related transactions is rooted in notarial law, which grants authentic instruments unquestionable evidentiary weight and enforceability. As a State-appointed public officer, the notary acts as a neutral and trusted intermediary, operating under the framework of Law No. 32-09, which has elevated professional standards and strengthened accountability.

The swift expansion of digital technologies, though improving efficiency through dematerialization, introduces fresh challenges—chiefly safeguarding confidentiality, ensuring document integrity, and protecting personal data. While Laws No. 53-05 and No. 09-08 provide an initial legal basis for electronic exchanges and data protection, they fall short of fully legitimizing the digital authentic act. The key issue remains finding a balance between embracing innovation and upholding the ethical foundations of the notarial profession. The primary aim of this study is to highlight the pressing need for Morocco's notarial system, along with the authentic instruments it produces, to adapt to the challenges brought about by digital transformation. It seeks to explore possible pathways for integrating technological innovations while preserving the core ethical obligations that underpin the notarial profession—chief among them the confidentiality of transactions, the safeguarding of the integrity of legal instruments, and the protection of personal data.

Keywords: Notarial System, Authentic Instrument, Notarial Confidentiality, Professional Ethics and Deontology, Digitalisation

Résumé :

Au Maroc, la sécurité des transactions patrimoniales s'appuie sur le droit notarial, qui confère à l'acte authentique une force probante et exécutoire certaine. Officier public mandaté par l'État, le notaire agit comme tiers de confiance selon les dispositions de la loi n° 32-09, laquelle a modernisé la profession en relevant les exigences de compétence et de responsabilité. L'essor du numérique, porteur d'efficacité par la dématérialisation, soulève toutefois de nouveaux défis : confidentialité, intégrité des actes et protection des données. Bien que les lois n° 53-05 et n° 09-08 aient posé des bases juridiques, elles restent insuffisantes pour consacrer pleinement l'acte authentique numérique. Le défi majeur consiste à concilier innovation technologique et principes déontologiques fondamentaux du notariat. L'objectif fondamental de cette étude est de mettre en lumière la nécessité, pour le système notarial marocain et les actes authentiques qui en émanent, d'évoluer face aux défis induits par la transformation numérique. Elle se propose d'examiner les voies possibles pour harmoniser l'intégration des innovations technologiques avec le maintien des exigences déontologiques qui constituent le socle de la fonction notariale.

Mots clés : Notariat (Notariat / Système notarial), Acte authentique, Transformation numérique, Confidentialité, Éthique / Déontologie

"If we do not evolve, we will be replaced. This is not a tragedy; in every civilization, there have been societies that have vanished. But if we do not wish to disappear, we must adapt."

Paul Valéry, « La Crise de l'esprit » (1919).

Introduction :

Notarial law serves as a fundamental safeguard of legal certainty and the sustainability of patrimonial and economic transactions. It is grounded in a rigorous normative framework that not only governs the practice of the profession (Soukaina Berkchi, 2021) but also shapes the drafting of authentic deeds, which carry both evidentiary and enforceable power. As a public officer vested with the authority of the State, the notary is entrusted with the responsibility of drafting these deeds, verifying the accuracy of facts, authenticating the identity of the parties involved, and ensuring the legal compliance of agreements. In this capacity, the notary also guarantees the long-term preservation of documents (Manuella Bourassin, 2021).

Furthermore, this role, subject to strict state oversight, enhances the reliability of legal commitments and significantly contributes to the prevention of disputes (Dominique Cardon, 2019, p. 18). In Morocco, it is worth noting that the notarial profession is primarily governed by Law No. 32-09 of May 20, 2011 (concerning the organization of the notarial profession, promulgated by Dahir No. 1-11-179 dated 25 Hija 1432, published in the Official Bulletin No. 6062 on July 5, 2012). This legislation has modernized the regulatory framework by establishing principles of neutrality, competence, ethics, and accountability, thereby replacing the Dahir of May 4, 1925, enacted during the protectorate era. Consequently, the Moroccan notarial system is part of a dynamic process of evolution, ensuring both stability and security in legal relationships.

The traditional notary profession is undergoing a profound transformation due to the rise of digital technologies. These advancements bring significant innovations such as electronic deeds, qualified digital signatures, blockchain, secure digital archiving, and notarial videoconferencing. Indeed, these tools hold the promise of enhancing the efficiency and accessibility of notarial services. However, they also present substantial challenges in terms of legal security, evidentiary value, confidentiality, professional liability, and the protection of personal data (Philippe Lemoine, 2014).

It is noteworthy that the Moroccan legislature has already enacted Law No. 53-05 on the electronic exchange of legal data, (promulgated by Dahir No. 1-07-129 of 19 Kaada 1428 (November 30, 2007), published in the Official Bulletin No. 5584 on December 6, 2007.) thereby recognizing the evidentiary value of qualified electronic signatures provided by accredited service providers. Additionally, Law No. 09-08 on the protection of personal data (promulgated by Dahir No. 1-09-15 on 22 Safar 1430, corresponding to February 18, 2009. Official Bulletin No. 5714 of 7 Rabii I 1430, (March 5, 2009)) imposes strict obligations on notaries regarding data security and confidentiality. Furthermore, the development of digital administrative platforms for land conservation, property registries, and dematerialized tax services reflects a clear institutional commitment to adapting to the digital era (Kettani M, 2022).

In France, the digitization of the notarial profession has become a fundamental cornerstone since 2008¹, when the Electronic Authentic Act was established as the standard, allowing over

¹ The Superior Council of Notaries, The Digital Evolution in the Notary Profession. <https://www.csn.notaires.fr/fr>

90% of official documents to be signed electronically (Faïza Berkchi, 2024). This shift gained further momentum during the health crisis, which accelerated the adoption of videoconferencing and remote signing, particularly for authentic powers of attorney. Notarial offices are now equipped with advanced digital tools that enhance document management, secure communications, and client satisfaction. Nevertheless, the profession remains cautious about protecting personal data and ensuring legal security, while emphasizing the irreplaceable value of human interaction in supporting individuals through legal processes (Aboulachbal, J, 2025).

It is noteworthy that Estonia stands as a benchmark in the digitalization of notarial services, distinguished by the implementation of a national policy focused on the complete dematerialization of notarial procedures. The Estonian notarial system is built on a highly secure digital infrastructure, enabling the electronic management of the entire lifecycle of legal documents, from drafting to storage, including signing and archiving. This system allows both citizens and professionals to complete all notarial formalities remotely through a centralized platform, which is interoperable with public registries to ensure greater transparency and full traceability of transactions. This framework notably relies on the use of enhanced electronic identification (e-ID) and blockchain technology². Indeed, this digital policy in the notarial field guarantees a high level of legal security while significantly reducing processing times and associated costs.

In line with reforms undertaken in many countries, the adaptation of the Moroccan notarial system to the digital era emerges as a critical legal, technical, institutional, and ethical challenge. Key issues include the absence of a specific framework for electronic authentic acts,

Key Stages of Digital Transition in the Notarial Field in France :

-2008: Launch of the Authentic Act on Electronic Support, initiating the dematerialization of notarial acts.

-2017: Encouragement for notary offices to equip themselves with videoconferencing solutions to modernize interactions with clients.

-October 2018: Signing of the first Remote Authentic Act using approved videoconferencing equipment.

-2020: Acceleration of videoconferencing adoption following the Covid-19 pandemic, supported by two decrees (No. 2020-395 and No. 2020-1422).

-November 2021: Filing of the 20 millionth Electronic Authentic Act (AAE) in the Central Electronic Minute Book (Micen).

-Early 2022: Over 85% of notary offices equipped with videoconferencing access. The Superior Council of Notaries,

² - Electronic Identification (e-ID) : Electronic identification, commonly known as e-ID, refers to a digital method of verifying the identity of individuals or entities. It serves as a key to unlock various services and benefits offered by governments, financial institutions, and other organizations. This technology is often used for tasks like mobile transactions, secure logins, and accessing online platforms. Additionally, many e-ID systems enable users to apply digital signatures to electronic documents, enhancing security and convenience. (Gbriel Lentner, Peter Parycek, Electronic identity (eID) and electronic signature (eSig) for eGovernment services – A comparative legal study. *Transforming Government: People, Process and Policy*, 10(1), 8-25, 2016, p.156. <https://doi.org/10.1108/TG-11-2013-0047>). - Ravi Kumar Mathur, Untitled Work or Presentation (National Telecommunications Institute for Policy Research, Innovation & Training [NTIPRIT], p. 13. https://ntiprit.gov.in/pdf/blockchainanddistributed/Blockchain_Introduction_KR.pdf .Blockchain technology is a secure, decentralized system that records ownership of digital assets in a distributed ledger. Once data is entered into a blockchain, it becomes nearly impossible to alter, positioning this technology as a game-changer for sectors such as finance, cybersecurity, and healthcare. Essentially, it acts as a tamper-proof record-keeping tool that facilitates safe, direct transactions over a peer-to-peer network, eliminating the need for intermediaries.

the disparity in technological equipment among notarial offices, and the urgent need to enhance the digital skills of professionals. Additionally, adapting disciplinary and ethical regulations to address new risks and the imperative to strengthen trust in digital acts remain crucial concerns.

This article holds both theoretical and practical significance within the context of the digital transformation of the notarial profession. On a theoretical level, it explores how the law adapts to emerging technologies by adjusting its standards and regulatory frameworks to a rapidly changing environment. On a practical level, the digitization of notarial acts enhances the accessibility, speed, and security of services, enabling remote execution of acts, reducing delays and costs, improving document management, and strengthening efforts to combat fraud. For notaries, the integration of digital tools serves as a catalyst for modernization, automating repetitive tasks and allowing them to focus on providing personalized advice and fostering collaboration with other professionals in the field.

The core of this discussion converges on a critical question: **To what extent does the rise of digital law necessitate a redefinition of the fundamental principles of notarial law, while also paving the way for new methods of legal security and authentication of acts?**

From this central issue, several subsidiary questions arise:

-To what degree are the legal foundations of notarial law challenged by the growth of digital technologies, and what adaptations are required to ensure their relevance in a digital environment?

-How does the dematerialization of notarial acts impact the preservation of their authenticity and the assurance of legal security for the parties involved?

-What new challenges related to the protection of personal data and cybersecurity emerge from the digitization of notarial acts, and how can these be addressed effectively?

-What legislative reforms and regulatory adjustments are necessary to effectively govern the integration of digital technologies into notarial practice?

This research is grounded in a thorough doctrinal analysis and a comparative examination of the legislative and regulatory framework currently in force in Morocco, with particular attention to Law No. 32-09 governing the notarial profession, as well as Laws No. 53-05 and No. 09-08 relating, respectively, to electronic data exchange and the protection of personal data. This legal inquiry is supplemented by a critical assessment of the technological challenges arising from the dematerialization of authentic instruments. The study further incorporates a review of relevant case law commentary and scholarly contributions, with the objective of assessing existing responses to the issues posed by digitalization and of formulating a framework capable of reconciling technological innovation with the core ethical and professional principles that underpin the notarial function in Morocco.

It is pertinent to examine, in advance, the structural impact that the introduction of digital technologies has on the practice of notarial functions, both in terms of the organization of duties and the very nature of the authenticity conferred on legal acts (1). This analysis should be extended by exploring the legal and regulatory mechanisms established to govern this transformation, with a particular focus on emerging issues related to legal certainty, the

protection of data confidentiality, and adherence to the ethical standards that define the notarial profession (2).

-1 - The impact of digital technologies on the redefinition of notarial duties and the authenticity of legal acts

-2 - New regulatory challenges: Legal certainty, data protection, and notarial ethics in the digital era

1 - The Impact of Digital Technologies on the Redefinition of Notarial Duties and the Authenticity of Legal Acts

It is evident that the advent of digital technologies has significantly transformed the practice of notarial duties (1.1) as well as the legal understanding of the authenticity of acts. Digitalization, by facilitating the evolution of the notary's methods of intervention and expanding their scope of action, has also led to a redefinition of the guarantees traditionally associated with authentic acts (1.2). This transformation necessitates a reevaluation of the foundations of notarial practice in light of new technological tools, both in terms of the organization of services and the security and evidentiary value of the acts established.

1.1 The Evolution of Notarial Duties in the Digital Era

In the context of the digital transition, notarial practice is undergoing a transformative process that impacts both the nature and scope of its responsibilities. The gradual adoption of innovative technologies is prompting notaries to reassess their methods of intervention, adapt their working practices, and redefine their relationship with clients in an increasingly dematerialized environment (1.1.1). At the same time, this evolution is driving a significant expansion of the notarial office, thereby enhancing the accessibility, responsiveness, and modernity of the public notarial service (1.1.2).

1.1.1-Transformation of the notary's methods of intervention

The digital transformation of the notarial profession represents a fundamental shift that challenges the traditional principles governing the practice of this field. This evolution is driven by the introduction of technological innovations that directly impact the nature of notarial acts as well as the mechanisms through which the will of the parties is expressed and manifested. Such a transition, necessitated by the need to adapt to the expectations of an increasingly digital-oriented society (Halima Baghdad,2021) , raises new questions regarding legal security, reliability, and the evidentiary value of acts prepared through dematerialized processes. Consequently, there is a pressing need for a thorough analysis of the validity, scope, and effectiveness of contractual offer and acceptance within an electronic context, where these elements are now expressed outside the traditional formal and procedural frameworks (Rachad Daghou, Kamal Hassani,2025) This calls for a renewed reflection on the safeguards provided to contracting parties and on the preservation of legal certainty in the digital environment.

Undoubtedly, the digital transformation of the Moroccan notarial profession emerges as an essential and unavoidable strategic priority, necessitating a fundamental shift in traditional methods of operation and a comprehensive redefinition of notarial roles. Indeed, the notary is

no longer confined to merely drafting and preserving documents in paper form but has evolved into a key player in securing (Lotfi Benazzou , Lahcen Ettahiri,), authenticating, and managing contractual commitments in a dematerialized environment. In this context, the adoption of specialized digital platforms—such as electronic notarial deeds, qualified digital signatures, digital archiving, and secure document transmission—has brought about a profound change in professional practices, significantly streamlining and enhancing the security of administrative and legal procedure (Halima Baghdad, 2021, p.44).

In this context, it is important to emphasize that Moroccan notaries are now required to adapt their practices to ensure the validity and evidentiary value of electronic deeds, while safeguarding confidentiality , protecting personal data, and strictly adhering to the applicable legal requirements (Pierre Flandrin, 2022, p.9). Furthermore, strategic partnerships established with the National Agency for Land Registry, Cadastre, and Cartography (ANCFCC) facilitate not only a seamless and secure exchange of information but also centralized file management and meticulous tracking of transactions, significantly reducing processing times and the risk of errors (Pierre Flandrin, 2022, p.9).

Additionally, it should be noted that this momentum is supported by ongoing enhancements in professional training, the standardization of notarial practices, and tailored support for notaries (Chaimaa Idaomar, Chafik Khalid, 2023, p.686). These efforts aim to ensure a successful digital transition that upholds fundamental rights and meets the legitimate expectations of citizens.

In the digital age, the electronic offer has emerged as a cornerstone of the modern contractual process (Maha EL NABHANI, Chifae IGLIOUI, 2024, p.1332). It represents a unilateral expression of intent, both firm and precise, designed to irrevocably bind its author as soon as it includes the essential elements of the future contract (Maha EL NABHANI, Chifae IGLIOUI, 2024, p.1333). Indeed, Article 1114 of the French Civil Code, as revised in the 2016 reform, explicitly states that "when addressed to a specific or unspecified person, the offer must contain the key terms of the envisaged contract and reflect the definitive intent of its author to be bound upon acceptance." Failing this, it cannot rise above the mere status of an invitation to negotiate. Furthermore, French legal doctrine refines this framework by specifying that an electronic offer must constitute a remote communication incorporating all the necessary elements for contract formation, thereby enabling immediate acceptance and excluding any form of advertising or commercial solicitation (M-P. Philippe-Dussine, 2018, p.143).

Additionally, this perspective resonates in comparative law : Egyptian legal doctrine (Torkia Hounki, 2021, p.26) defines the electronic offer as an expression of intent that is "firm, definitive, and unequivocal, reflecting a clear intention to be bound under specified conditions." Similarly, Moroccan law, while acknowledging the evidentiary value of qualified electronic signatures under Law No. 53-05³ on the electronic exchange of legal data, opts for the term "offer" (al-ard) instead of the traditional "ijab."⁴ This choice signals a legislative intent to adapt

³ Article 65-3 of Law No. 53-05 relating to the electronic exchange of legal data : Electronic means may be used to make available to the public contractual offers or information about goods or services with a view to concluding a contract.

⁴ However, neither the Dahir of Obligations and Contracts nor the national legislation on electronic commerce (Laws No. 53-05 and No. 43-20) provides a comprehensive definition of the electronic offer, much like other Arab legal frameworks that limit themselves to describing the technical means of contract conclusion.

contractual terminology to digital requirements without automatically applying the conventional rules of ijab.

Accordingly, it follows that an electronic offer must strictly comply with the traditional requirements of firmness, meaning the absence of any ambiguity regarding the commitment of its author, and precision—namely the inclusion of all essential elements—while being expressed through a reliable digital medium (such as a website, email, dedicated platform).

Furthermore, recent French case law (Judgment delivered by the First Civil Chamber of the French Court of Cassation on February 9, 1999, case number 96-19.538.) clearly distinguishes between an offer, which can be freely withdrawn as long as it has not reached its recipient, and a promise to contract, which, in contrast, creates an obligation to maintain the commitment.

1.1.2 - Expansion of the notarial profession beyond physical boundaries

The ongoing rise of digitalization in the realm of commercial transactions has brought about a profound transformation in the ways contractual offers are expressed. Today, contractual intent can be conveyed through a wide array of electronic channels, ranging from online platforms and email communications to conversational interfaces. This technological shift necessitates a fresh legal perspective, both in terms of analyzing expressions of intent and in addressing the specific technical and legal implications associated with each mode of communication.

- **Contractual Offers by Email**

The transmission of a contractual offer via email has become one of the most prevalent forms of dematerialized expression of contractual intent. This process entails sending a clear and unequivocal proposal, encompassing all essential terms of the contemplated agreement, to a specifically identified recipient. Such an offer generally becomes binding upon dispatch, provided the recipient has consented to this mode of communication. However, the inadvertent multiple transmission of the same message raises pertinent questions: each instance is presumed to constitute a separate offer, unless it can be demonstrated that the recipient was aware of the duplicative nature of the communication (Lazhar Ben Said, 2012, p.75). Furthermore, explicit consent from the recipient is not required when the offer is addressed to professionals or tradespersons who have supplied their email address for commercial purposes.

- **Offers via Automated or Targeted Electronic Messages**

The issuance of offers through automated or targeted electronic messages (such as push emails) is characterized by the delivery of personalized commercial proposals to recipients selected on the basis of their preferences. This approach excludes the general public and necessitates that the message contain all commitments essential to the contract's formation (Jihane Arabi, 2008, p.17). Mere access to the recipient's inbox is sufficient to inform them of the offer, leaving them free to accept or decline. It should be noted that any reservation, whether explicit or implied, reclassifies the communication as an invitation to negotiate, rather than a binding offer (Jihane Arabi, 2008, p.18).

- **Offers Through Real-Time Electronic Conversations**

Formulating an offer through real-time electronic communication, such as online chat, enables direct and immediate interaction between parties. This method facilitates negotiation and the

swift conclusion of agreements, with the final offer serving as the contractual foundation (Bouchra Niya, 2011, p.275). Jurisprudence acknowledges the legal validity of offers made and accepted electronically, granting such exchanges binding force equivalent to that of traditional written contracts (Judgment of the Court of Cassation, Decision No. 1687 dated December 26, 2013, in Social Case No. 1628/5/2/2012, published in the journal Law and Electronic Authenticity, No. 14, April 2017, p. 286.)

• **Distinctive Features of Electronic Offers and the Cross-Border Framework**

Electronic offers are distinguished by their transmission over international networks, granting them a potentially global reach that transcends political and geographic boundaries. Nevertheless, the offeror may choose to limit the geographic scope of the offer's dissemination. Certain jurisdictions may also impose restrictions or prohibitions, particularly in cases involving embargoes or international sanctions (Meryem Edderouassi, 2017, pp.55-57). Additionally, distance offers impose a series of obligations upon the professional towards the consumer, including (Meryem Edderouassi, 201, p.55)

- Clear identification of the offeror (name, physical and electronic address, registered office) ;
- A detailed description of the goods or services proposed ;
- Precise indication of price, payment terms, and delivery modalities ;
- Information regarding the right of withdrawal, after-sales service, and the duration of warranties ;

• **Formal and Transparency Requirements**

An electronic offer must be presented on digital platforms that enable the consumer to review all relevant terms and conditions. The offer should accurately represent the product or service being proposed, clearly specifying its nature, quantity, and price (in the applicable currency), as well as indicating whether any ancillary fees are included (Soukaina Berkchi, 2021, p.2516). The offeror's address and the terms of payment must be disclosed, except where payment is made electronically, in which case the essential distinction lies in the digital communication channel used to convey the offer.

It is undeniable that the Moroccan notarial landscape is undergoing a profound transformation, driven by the integration of advanced digital solutions that are redefining traditional professional practices (Soukaina Berkchi, 2021, p.2518). Moroccan notaries now utilize secure electronic document management platforms, which facilitate the preservation, organization, and sharing of files, significantly reducing administrative burdens and minimizing the risk of clerical errors. Furthermore, the adoption of certified electronic signatures and blockchain technology respectively ensures the authenticity and traceability of notarial acts, thereby enhancing the evidentiary value of executed documents. Artificial intelligence and automation also play a pivotal role: dedicated algorithms for document verification can detect inconsistencies at an early stage, thereby reducing potential disputes and safeguarding legal certainty. This evolution forms part of a broader movement toward the digitalization of administrative procedures, made possible through strategic partnerships with various public institutions, which in turn promotes greater information flow.

At the heart of this transformation is the Tawtik platform, which connects notarial offices with the systems of the General Directorate of Taxes and the Ministry of Justice, and is soon to be linked with the Kingdom's Treasury, thereby streamlining formalities, reducing costs and processing times, and optimizing internal office management. Finally, the launch of the Tadbirnot platform in 2022, developed in collaboration with SIGITAL (Maha EL NABHANI, Chifae IGLIOUI, 2024, pp.1334-1335), has further strengthened digital trust by enabling notaries to instantly verify the identity of signatories. Initiated in 2016, this project aims to expand the digital notarial ecosystem and reinforce interoperability with partner institutions, paving the way for an even more secure and modernized practice (Maha EL NABHANI, Chifae IGLIOUI, p.1335).

1.2: Reassessing Notarial Authenticity in the Face of Technological Innovations

In the current landscape, it is imperative to reevaluate the concept of notarial authenticity through the prism of technological advancements. On one hand, this involves assessing the evidentiary value of electronic deeds, exploring the specific conditions under which a dematerialized document can achieve legal equivalence to its paper-based counterpart (1.1). On the other hand, it necessitates a thorough examination of the unprecedented challenges associated with the preservation and transmission of such deeds, highlighting the critical requirements for longevity, integrity, and secure accessibility of digital archives (1.2).

1.2.1: The Evidentiary Value of Electronic Deeds

Law No. 53-05, enacted in 2007, concerning the electronic exchange of legal data, establishes a fundamental principle recognizing the equivalent legal value of electronic and paper documents. According to this law, a digital document holds the same probative force as a traditional paper document, subject to two critical conditions: the reliable identification of the document's author and the preservation of its integrity during creation, transmission, and storage. As a result, an electronic notarial act, classified as a written document, benefits from the same indisputable presumption of validity in its authentic form as a paper act executed in the presence of a notary. To support this, the Tadbirnot platform⁵ integrates a certified "Class 3 key" signature, which fulfills the stringent requirements of reliability and uniqueness essential to uphold the evidentiary weight of the act.

In practice, the widespread adoption of electronic signatures represents the natural culmination of the digitization of legal transactions, placing the assurance of authenticity, security, and legal recognition at the heart of digitalized documents. Consequently, it is imperative to closely examine the applicable legal framework, the various forms of electronic signatures, and the conditions of validity required under Moroccan law. Primarily, the concept of a signature, broadly understood as the consistent inscription of a name intended to affirm the sincerity and

⁵ The national portal Tadbirnot, created in collaboration with SIGITAL, a Moroccan firm expert in digitalization and digital trust solutions, provides notaries and their clients with the ability to electronically sign documents and securely store them in dedicated electronic archiving systems. This cutting-edge platform guarantees a smooth, dependable, and legally sound process for handling notarial transactions, significantly improving both operational efficiency and data protection for all stakeholders. <https://h24info.ma/maroc/tadbirnot-une-plateforme-pour-accelerer-la-transformation-digitale-de-la-profession-notariale-au-maroc/>.

responsibility associated with a written document, is enriched in positive law by a more technical definition, encompassing any mark intrinsically linked to a document and clearly expressing an unequivocal intent to consent to its content (Safae Abrighach, 2023, p.22). On this basis, the electronic signature serves a dual and critical purpose (Safae Abrighach, 2023, p.22):

-it identifies the author of the document ;

-concretizes their commitment to fulfill the obligations arising therefrom.

However, a simple electronic signature alone does not suffice to confer evidentiary value to a document. Moroccan legislation, adhering to the principle of equivalence between paper-based and electronic writings, presumes the reliability of the process only when it relies on a secure electronic signature. Such a signature is derived from a dependable cryptographic method, ensuring an inseparable connection between the signature and the document, as well as the integrity of the exchanged data (Yvon Laurier Ngombé, 2024, p.148).

Under Moroccan law, a basic electronic signature is insufficient to confer evidentiary weight to a legal document. In line with the principle of equivalence between traditional paper-based and digital writings, Moroccan legislation recognizes the reliability of electronic processes only when supported by a secure electronic signature. This advanced signature, grounded in robust cryptographic techniques, establishes an inseparable connection between the signature and the document while safeguarding the integrity of the data exchanged. Cryptography, integrating both software and hardware to transform information into an unreadable format before accurately restoring it, serves as the foundation of this system, ensuring authentication, confidentiality, integrity, and non-repudiation, key elements for building digital trust and enhancing cybersecurity. The mechanism for creating an electronic signature operates through a private key, known solely to the signatory, and a public key, available to the recipient for verifying authenticity via a hashing procedure. In Morocco, only accredited entities, such as Barid Al-Maghrib through its e-Sign platform⁶, are permitted to issue these compliant tools under Law No. 53-05, with the General Directorate of Information Systems Security overseeing the certification of signature processes. Although this framework extends the legal validity of electronic documents to most transactions, the execution of electronic notarial acts requires unwavering reliability due to the notary's status as a public officer and the authoritative nature of authentic acts (Hicham Elbasri, 2024.p.65). The Covid-19 pandemic highlighted the pressing need to accelerate the adoption of electronic authentic acts, not only to sustain critical services but also to facilitate regulatory advancements inspired by international frameworks, particularly

⁶ To date, only the electronic signature solutions provided by Barid e-Sign are granted the legal recognition stipulated under Law No. 53-05. However, these signatures cannot be validly utilized for all legal acts, particularly notarial acts. This limitation arises from the binding nature and often obligatory character of the commitments stemming from such acts, which necessitate the direct and personal oversight of a public officer. The notary, as the guarantor of the legal capacity of the parties and the authenticity of their consent, requires a technological tool of unquestionable reliability before any mechanism of substitution can be considered. Consequently, significant technical and legal barriers remain to achieving full dematerialization of notarial processes.

those of France⁷ and Quebec⁸, to address lingering technical and legal obstacles to complete notarial dematerialization

The remote execution of authentic acts, as an innovative approach, remains subject to strict regulation. This flexibility, initially introduced as a temporary measure, applies exclusively to specific categories of agreements, namely reservation contracts, promises of sale for future completion, sales agreements, and mortgage loans, in order to uphold the rigor and legal certainty inherent to the notarial function. In response to the health crisis in France, an exceptional mechanism was swiftly implemented through Decree No. 2020-395 of April 3, 2020, which, during the state of emergency and for one month following its cessation, allowed notaries to draft and authenticate acts electronically, even in the absence of one or more parties physically or through a representative. This temporary provision ensured legal continuity while adhering to public health imperatives. By contrast, Morocco did not adopt a comparable framework during the state of emergency; in the absence of a party's physical presence at the notarial office, only a power of attorney is permitted, enabling a representative to sign on behalf of the client. It should be noted that Article 12 of Law No. 32-09 dated July 7, 2014, explicitly prohibits the receipt of acts and signatures outside the notarial office, except in exceptional circumstances that require prior authorization from the president of the regional council, with notification to the King's Attorney General.

In parallel, the Moroccan notarial profession has established itself as a pioneer in the realm of administrative digitization. Through various agreements forged with key institutions, such as the Ministry of Justice, the Ministry of Finance, and the Deposit and Management Fund, and in close collaboration with the General Directorate of Taxes, the profession achieved full digitization of deed registration as early as 2018 via the Tawtik platform. This initiative reflects a steadfast commitment to embracing new technologies to modernize and secure interactions with administrative bodies. Furthermore, the issuance of payment certificates, a critical prerequisite for drafting deeds related to real estate, has generated increasing expectations for streamlined processing. With regard to the General Treasury of the Kingdom, all formalities associated with this issuance, including the delivery of the payment certificate, are now conducted digitally, ensuring efficiency and traceability. Concurrently, the National Agency for Land Conservation, Cadastre, and Cartography has introduced the "Mouhafadati" platform for notaries, enabling real-time monitoring of operations concerning land titles, thereby enhancing legal security and transparency in real estate transactions. Through these advancements, the Moroccan notarial profession underscores its full recognition of the electronic authentic deed,

⁷ The implementation of the electronic authentic act continues to face delays, owing to the inherent particularities of this formality which necessitate a cautious approach. In contrast, several foreign legal systems, notably those in France and Quebec, have already recognized the validity of notarized acts in electronic format, enabling the public officer's signature to be affixed digitally. It therefore becomes imperative for Moroccan legislators to undertake a thorough examination of the obstacles to be removed and the challenges to be addressed in the dematerialization of notarial acts, drawing valuable insights from the experiences observed in other jurisdictions.

⁸ An authentic act, as defined in the Civil Code of Québec, is a legal document executed before a competent public officer, such as a notary, in accordance with the formalities prescribed by law (Article 2813 C.C.Q. « L'acte authentique est celui qui a été reçu ou attesté par un officier public compétent selon les lois du Québec ou du Canada, avec les formalités requises par la loi. L'acte dont l'apparence matérielle respecte ces exigences est présumé authentique »).

reinforcing its pivotal role as a guarantor of legal reliability and contractual trust in the digital era.

1.2.2- The Evidentiary Value Recognized for Electronic Copies of Legal Documents

In Moroccan legal framework, the equivalence between an electronic copy of an authentic deed and its physical original is robustly affirmed, endowing the digital version with identical evidentiary authority as the traditional paper document. As stipulated in Article 440, paragraph 2, of the Dahir of Obligations and Contracts, copies derived from original authentic titles or private writings are deemed equivalent to the originals when authenticated by public or duly authorized officials in the jurisdiction of their creation, a rule that is analogously applied to photographic reproductions. To be judicially admissible, an electronic copy must adhere to the stringent storage and archiving protocols detailed in Articles 417-1 and 417-2, which mandate content integrity, restricted file access, and safeguards against external alterations to uphold the trustworthiness of the digitized record. While the law does not overtly distinguish between electronically transmitted copies and those printed from digital systems, legal scholars tend to favor the view that a digital replica, preserved on a medium meeting the standards of Law No. 53-05 concerning electronic legal data exchange, enjoys a full presumption of authenticity. In a comparative perspective, French legislation allows electronic copies of deeds originally signed on paper, contingent on a digitization process that ensures accurate reproduction through markers like the date of digitization, notarial seal, and certification of conformity (Al-Rachadi, H. 2022, p.125). Thus, Moroccan law reflects a commendable level of juridical sophistication, clearly establishing that a certified electronic copy of an authentic deed holds the same probative and authentic standing as its original, thereby enhancing the legal certainty of digital transactions.

In a notable alignment with Moroccan legislation, French law demonstrates a remarkable legal convergence in its treatment of digital evidence, particularly concerning the evidentiary value of electronic copies. Under French legal provisions, notaries, acting as public officers, are authorized to create digital replicas of originally paper-based documents, endowing these copies with complete probative authority. This power, however, is carefully circumscribed by the obligation to adhere to a digitization process that guarantees the utmost fidelity to the original document. To ensure this, rigorous procedural requirements are enforced, such as recording the date of digitization, maintaining the integrity of the electronic notarial seal, and providing a formal statement affirming the copy's precise conformity with the physical original. Under the provisions of article 1 of Decree No. 2016-1673 dated December 5, 2016, concerning the reliability of copies and enacted to implement Article 1379 of the Civil Code, a copy is deemed reliable, as defined in the second paragraph of Article 1379 of the Civil Code, when it results from:

-A reproduction process that causes an irreversible alteration to the medium of the copy; or

-In the case of electronic reproduction, a process that complies with the requirements set forth in Articles 2 through 6 of the present Decree. At the heart of this framework lies Decree No. 2016-1673, dated December 5, 2016, which operationalizes the concept of a "reliable copy" through clear and measurable technical criteria. The decree mandates the implementation of sophisticated cryptographic techniques, including electronic fingerprinting to protect file integrity, qualified timestamping to confirm the date of creation, and secure archival systems

to ensure enduring preservation. By setting these elevated technical standards, which resonate with international benchmarks, French law mirrors the fundamental objectives of the Moroccan legal system: to enhance the legal assurance of dematerialized documents and to cultivate a dependable environment critical (Al-Rachadi, H. 2022, p.125) for the legitimacy of digital evidence.

2 - Emerging regulatory challenges: legal security, data protection, and notarial ethics in the digital era

In the rapidly evolving landscape of digital transformation, the legal profession, particularly the notarial field, faces unprecedented regulatory challenges. This chapter explores the critical issues of ensuring legal security, safeguarding data privacy, and upholding notarial ethics amidst the complexities introduced by digital technologies (2.1). These concerns are paramount as they directly impact the trust and integrity foundational to notarial practice (2.2).

2.1- Electronic notarial Acts: Balancing traceability requirements and cybersecurity challenges

The Moroccan notarial sector is currently undergoing a significant transformation, driven by the gradual adoption of innovative digital technologies. Nevertheless, the shift toward full digitalization of notarial activities faces substantial challenges.

The **first subsection** will examine the critical issues surrounding the preservation and traceability of electronic records, emphasizing the need to ensure the integrity, authenticity, and long-term durability of documents within a rapidly evolving digital landscape. The **second subsection** will address the specific risks posed by cybersecurity, particularly with regard to the protection of personal data. It will highlight the imperative for notarial professionals to implement stringent measures to safeguard confidentiality and bolster public trust in electronic systems.

2.1.1: Challenges Related to the Preservation and Traceability of Electronic Records

The gradual digitization of notarial services in Morocco, driven by the rise of digital platforms and the need to adapt the profession to the demands of the digital age, is fundamentally reshaping the traditional foundations of the Moroccan notariat. While this transformation is motivated by the pursuit of greater accessibility, enhanced efficiency, and increased transparency, it raises significant legal and ethical questions that must be addressed. Before considering the anticipated benefits of a regulated digital notariat, it is imperative to examine the challenges and implications of this shift, particularly with regard to legal certainty, the protection of confidentiality, and the preservation of the authenticity of notarial acts. The transition from paper-based records to electronic authentic acts necessitates a comprehensive overhaul of the methods used for storage and traceability, which are critical to ensuring the evidentiary value, accessibility, and integrity of notarial documents. In this context, the secure storage of acts now relies on the implementation of a centralized registry, overseen by the National Council of the Order of Notaries. This centralized system emerges as an essential institutional solution to meet the heightened demands of notarial practice in the digital era (On the occasion of the centennial celebration of the Moroccan Notariat, the National Council of the Order of Notaries of Morocco is convening a scientific symposium on May 13 and 14, 2025, in Rabat).

The centralized notarial registry serves as a pivotal mechanism for the centralization, management, and preservation of all electronic notarial acts, operating independently of individual notarial offices. This structure significantly mitigates the risks of loss, destruction, or accidental or malicious alteration of documents. By pooling technical resources, it ensures uniformity in conservation protocols while adhering to the highest standards of cybersecurity and confidentiality.

Under the oversight of the National Council of the Notarial Order, the centralized registry benefits from institutional supervision that bolsters the trust of both stakeholders and public authorities in the system's reliability. This framework guarantees compliance with legal and regulatory requirements, particularly concerning the retention of metadata, timestamping, authentication of signatories, and traceability of operations. Furthermore, centralization facilitates the implementation of redundant backup systems, data encryption, and stringent access controls—essential safeguards to prevent unauthorized access or falsification.

The adoption of the centralized registry, under the stewardship of the National Council of the Notarial Order, reflects a commitment to modernizing and enhancing the security of the notarial profession. It upholds the core principles of authenticity, confidentiality, and continuity of public notarial services (Aboulachbal, J,2025,). This institutional model effectively addresses the contemporary challenges posed by digitalization, ensuring the reliable and long-term preservation of authentic acts, thereby contributing to the legal security of citizens and society at large.

Moreover, the integration of cutting-edge technological infrastructure, such as the sovereign cloud solution (CESE, 2023, p.18) established by the National Agency for Land Conservation, Cadastre, and Cartography (ANCFCC) in Morocco, marks a significant advancement in the management and security of notarial data. This system, specifically designed to meet the growing demands of digitalizing public services, provides a robust technical and legal environment that ensures the confidentiality, integrity, and availability of electronic authentic acts. The sovereign cloud guarantees secure storage and data encryption in line with stringent cybersecurity requirements.

The implementation of sovereign cloud solutions presents significant advantages for the notarial profession, particularly within the context of modernization and compliance with Moroccan legal standards. Firstly, the security and sovereignty of sensitive notarial data are assured when storage occurs exclusively on servers physically located within the national territory and placed under the direct supervision of the ANCFCC (Aboulachbal, J,2025,). Such strict territorial control eliminates the risk of extraterritorial legal claims and ensures that all data processing activities adhere meticulously to Moroccan legislation governing the protection of personal data. Additionally, integrity and traceability are maintained through the deployment of advanced encryption protocols and comprehensive logging systems. Each operation involving electronic deeds—be it creation, modification, consultation, or transfer—is time-stamped and systematically recorded. This rigorous process provides full transparency and enables exhaustive tracking of every intervention, thereby substantiating the authenticity and reliability of notarial records. The robust and redundant architecture of the sovereign cloud infrastructure further guarantees the perpetual availability of documents and archives, ensuring uninterrupted access even amid technical failures or localized incidents (CESE, 2023, pp. 18-

19). Such operational continuity is indispensable to safeguarding the legal certainty of transactions and upholding the stable functioning of notarial offices. Moreover, these technological measures are entirely consistent with the requirements article 12 of Law No. 53-05 concerning the electronic exchange of legal data, which stipulate that the preservation of electronic acts must occur under conditions that guarantee their evidentiary value and authenticity. In this regard, the adoption of the sovereign cloud by the ANCFCC emerges as a tailored response to the imperatives of notarial reform in Morocco, providing a secure and internationally compliant framework that fosters user trust in the digitalization of notarial acts. It also bolsters legal security in transactions and ensures the enduring preservation of notarial archives in the digital age. Furthermore, regulatory provisions regarding electronic documentation mandate the conservation of relevant metadata, such as timestamps, signatory identities, and digital fingerprints, all essential for the legal validity and evidentiary force of such acts. Comprehensive traceability is further underpinned by systematic recording of each operation according to audit protocols aligned with international standards, thereby facilitating the reconstruction of the entire lifecycle of each notarial act and guaranteeing transparency (Cyril Vidal, 2023, , pp.78-79). The consideration of blockchain technology stands to reinforce the immutability of records and prevent any attempt at tampering, while the widespread application of qualified electronic certificates and secure cryptographic modules ensures non-repudiation and the authenticity of signatures. Consequently, while the digitalization of the notarial sector paves the way for much-needed modernization, it simultaneously necessitates the establishment of a rigorous legal and technical framework to preserve the confidence, security, and durability of authentic acts in an increasingly digital environment (Cyril Vidal, 2023, p.81.).

2.1.2-Risks related to cybersecurity and personal data protection

Data security and the protection of sensitive information have become critical challenges, a reality starkly illustrated by the 2025 cyberattack on the Tawtik platform (DGSSI, 2025)⁹. This incident underscored the urgent necessity of strengthening cybersecurity measures and implementing robust security protocols to safeguard against emerging threats. In Morocco, the protection of personal data is now a fundamental pillar of the legal landscape, firmly established

⁹ The Direction Générale de la Sécurité des Systèmes d'Information

(DGSSI), <https://www.dgssi.gov.ma/fr> On June 2, 2025, a major cyberattack targeted Tawtik, a crucial platform for the digitalization of notarial documents in Morocco. Managed by the National Council of the Order of Notaries of Morocco (CNONM), Tawtik's security vulnerabilities—such as weak passwords and susceptibility to phishing—allowed hackers, reportedly from the Jabaroot DZ group, to infiltrate the system. The attackers successfully extracted approximately 4 terabytes of data, comprising some 4 million official records. Notably, the National Agency for Land Conservation, Cadastre, and Cartography (ANCFCC) was not compromised, highlighting that the breach was confined to Tawtik and thus squarely focused attention on its security protocols. The consequences were severe: more than 1,700 notarial offices were paralyzed, halting critical transactions and registrations, while sensitive personal data—including that of prominent individuals—was exposed, sparking renewed debate over privacy protections. Justice Minister Abdellatif Ouahbi revealed that the disruption led to a loss of nearly 80% of state revenue from notarial services during the outage, illustrating the significant economic impact. This incident has prompted urgent reflection on data security, institutional accountability, and the challenges of safeguarding sensitive information as Morocco accelerates its digital transformation .

by Law No. 09-08 of February 18, 2009 concerning the protection of individuals with regard to the processing of personal data. This legislation, which draws inspiration from international standards and, notably, European law, establishes a rigorous and structured legal framework to govern the processing of any data related to an identified or identifiable natural person. The overarching objective is to guarantee the respect of privacy, confidentiality, and the security of personal information, regardless of the medium or the nature of the operations involved.

Central to this framework is the National Commission for the Control of Personal Data Protection (Commission Nationale de Contrôle de la Protection des Données à Caractère Personnel, or CNDP), an independent administrative authority. The CNDP is entrusted with ensuring that all data processing operations comply with legal requirements, handling complaints, educating the public about their rights, and guiding the adaptation of practices and regulations, especially in the face of challenges presented by digital transformation and artificial intelligence. The law's scope is particularly broad, encompassing any data capable of identifying a person, whether directly or indirectly, and includes both traditional data types (such as names, addresses, phone numbers, fingerprints) and technical data (including IP addresses) (CNDP, 2016, pp. 13.14). The concept of processing is interpreted expansively, covering all operations, whether automated or manual, from collection through to destruction, including storage, consultation, modification, and disclosure.

Nevertheless, the law provides for certain exceptions, excluding processing carried out exclusively for personal, journalistic, artistic, or literary purposes, as well as those connected to national security, defense, the prevention or repression of criminal offenses, or activities governed by specific legal texts (Law No. 09-08, Articles 43 to 53). Beyond the information technology sphere, data protection extends to numerous contemporary fields such as social networks, digital economic activities, the fight against identity theft, remote working, physical security of storage devices, and the management of risks arising from unauthorized disclosure or system failures. This comprehensive approach reflects Morocco's commitment to ensuring the integrity and security of personal data in an increasingly interconnected and digital society.

From a legal perspective, the statute places a clear obligation on data controllers to provide individuals with transparent and advance notice regarding the processing of their personal data. This requirement includes precise information about the identity of the controller, the intended purpose of data collection, and, where applicable, the identity of their representative. The right to such information may be subject to specific limitations (Article 6 of Law No. 09-08) for reasons pertaining to national security or in circumstances where the provision of information is technically unfeasible, provided these exceptions are overseen by the relevant data protection authority (CNDP). Furthermore, the law enshrines the right of access, ensuring that any individual (Article 7 of Law No. 09-08.), upon duly establishing their identity, may obtain confirmation of the existence of data relating to them, along with intelligible details concerning the nature and origin of such data. The CNDP is also empowered to determine the response timeframes and to rule on the abusive character of certain requests (Houssain Kounaidi, 2018, pp. 124-125). Notably, the legislative framework incorporates a stringent regime of criminal sanctions in cases of non-compliance, including unlawful processing, failure to declare data handling activities, violation of individuals' rights, or inadequacies in data security that expose information to unauthorized access. The penalties imposed reflect the seriousness of the infraction, ranging from imprisonment to substantial fines (Articles 51 to 66 of Law No. 09-

08). It is clear that Law n° 09-08 elevates the protection of personal data to a foundational principle, establishing robust safeguards for confidentiality, transparency, and security, while entrusting the CNDP with a pivotal role in regulating and guiding Morocco's digital transformation.

2.2 - The Evolving Regulatory and Ethical Framework for the Notarial Profession in the Digital Age

The accelerated technological progress that has marked the Moroccan notarial sector since 2025 demands a rigorous reassessment of the normative and ethical frameworks governing the profession. The digitalization of notarial practice extends beyond the mere integration of innovative technological solutions; it profoundly challenges the very legal and ethical foundations upon which the notarial role is structured.

In light of this transformation, it has become imperative to adopt a twofold strategy. On one hand, it is essential to conduct a forward-looking analysis of the evolution of regulatory frameworks to ensure they are adapted to digital realities (2.2.1). On the other hand, it is necessary to rethink deontological principles to safeguard the enduring, fundamental values of the notary (2.2.2), all while seizing the opportunities and managing the risks inherent in the digital era.

2.2.1 – Prospects for the evolution of the notarial normative Framework in the Digital Age

The modernization of the Moroccan notarial profession has become an indispensable requirement, a need brought into sharp focus by the 2020 health crisis which underscored the necessity of reimagining traditional practices reliant on physical presence. In this context, the emergence of the Tadbirnot platform marks a foundational advancement, enabling the complete digitization of the preparation, signature, and electronic archiving of notarial deeds, all while guaranteeing the security and traceability of operations.

A key innovation lies in the capability for remote qualified electronic signatures, featuring instantaneous identity verification through the National Identity Management System, and the holding of appearances by videoconference. This approach preserves the solemnity of the authentic deed within a digital framework. This transformative dynamic has afforded the Moroccan notariat international visibility, earning recognition from the French notarial community and attracting growing interest from other African nations (Report of the 117th Congress of Notaries of France, Digital Technology, Humanity, and Law, 2021, p. 84), thereby affirming Morocco's regional leadership in integrating technology to enhance legal certainty. However, the legal framework currently in force presents notable limitations. While Law No. 53-05, enacted in 2007, established the foundational principles for recognizing electronic documents, the specific legislation governing the notarial profession (Law No. 32-09) failed, in its initial version, to integrate the concept of an electronic authentic deed. Its scope was limited to recognizing the notary's electronic signature, while the contracting parties were still required to sign on paper, thus hindering the complete dematerialization of legal instruments (The Minister of Justice, 2024).

In response to these shortcomings, a reform bill was submitted to the General Secretariat of the Government in October 2024. This proposed legislation aims to adapt Law 32-09 to the demands of the digital era, establish a national center for electronic archiving, and guarantee the equivalent evidentiary value of electronic and paper-based deeds. It also seeks to modernize notarial training by creating a dedicated institute and to regulate the use of artificial intelligence in drafting legal acts to ensure the quality and ethical integrity of notarial services.

This initiative is part of a broader effort to align with international standards, particularly the GDPR for data protection and the eIDAS regulation for electronic signatures. The article 4 of recent Law 43-20 further clarifies the hierarchy of electronic signature levels, enhancing the security of digital transactions. Ultimately, the ongoing legal reform and regulatory harmonization in Morocco's notarial sector demonstrate a clear commitment to adapting the law to the realities of the digital society. The success of this transition depends on the legislature's capacity to anticipate risks, ensure legal certainty, and promote continuous training responsive to technological challenges. Only a critical and forward-looking approach will preserve the fundamental role of the notariat as a guardian of trust and security in the digital domain.

Indisputably, the success of this transformation hinges upon the ability to preserve the legitimacy and trust inherent in the notarial act. This requires ensuring the security and integrity of digital transactions while upholding public protection as a paramount priority.

The establishment of an appropriate legal framework is an indispensable prerequisite. This entails formally recognizing the equivalence between the electronic notarial deed and its paper counterpart, provided that specific formal and security requirements are met, such as qualified electronic signatures, time-stamping, and preservation within a centralized electronic repository. Such explicit recognition, already established in several foreign jurisdictions, is critical for ensuring the acceptance of digital deeds by courts, administrative bodies, and third parties.

Furthermore, remote appearances must be rigorously regulated by defining eligible acts, stipulating identification protocols, and mandating recording obligations to mitigate potential risks and bolster legal certainty. The long-term preservation of electronic deeds, whether managed individually by each notary or centrally by a national authority, must guarantee their permanence, confidentiality, and controlled accessibility, with clear provisions for instances of professional cessation.

From a technical standpoint, the reliability of the enabling tools is paramount. Qualified electronic signatures, strong authentication, secure archiving, and ultimately the integration of technologies such as blockchain or artificial intelligence, are essential to achieve a level of security and traceability that surpasses traditional procedures. System interoperability, the automation of repetitive tasks, and collaborative platforms can streamline client interactions and enhance the efficiency of notarial services. Finally, robust cybersecurity and business continuity must be ensured through stringent policies, targeted training, and resilient backup procedures to guarantee the resilience of the notarial public service against technical threats and contingencies.

2.2.2. - The evolving ethical framework for the notarial profession in the digital age.

In the era of digital transformation, upholding the ethical and deontological principles of the notarial profession is a fundamental requirement for safeguarding public trust and ensuring legal certainty (Sahim.K, 2000, p.8). The integration of technology into notarial practice must not serve as a justification for relaxing professional obligations; on the contrary, it demands heightened vigilance. Professional secrecy must remain absolute, which requires the exclusive use of secure digital solutions for data exchange and storage and the avoidance of unprotected, consumer-grade platforms. Confidentiality must be guaranteed at every stage, including during remote signings, by preventing any form of unauthorized intrusion or interception (Aissam Zine-Dine and Adil El Barhoumi, 2023,p.68).

Furthermore, digitalization must not compromise the quality of counsel or the notary's advisory role. Personalized dialogue and the clear explanation of legal instruments remain essential, and informed consent must be verified with undiminished rigor, particularly to prevent external pressure during remote appearances. The principle of equity also requires ensuring digital inclusion so that modernization does not create new forms of exclusion. The profession is therefore responsible for assisting every client, regardless of their technological proficiency, and for maintaining accessible alternatives. Finally, a notary's liability extends to the reliability of the tools employed and the security of electronic deeds, mandating continuous training to address specific digital risks such as fraud, forgery, and data loss (Report of the 117th Congress of Notaries of France, The Digital, Humanity, and the Law, 2021,p.55). The balance between technological innovation, respect for privacy, and the preservation of ethical standards must therefore guide the evolution of the digital notariat, lest the very essence of the notarial function be undermined.

Amid this digital transformation, the notarial profession faces significant ethical and practical challenges that demand a balanced approach to preserve its core principles while adapting to modernity. Probity and impartiality, the ethical cornerstones of the profession, are tested by new risks, such as conflicts of interest and commercial pressures from digital platforms that could skew the allocation of cases, thereby threatening a notary's independence from parties and intermediaries. To address this, professional governing bodies must establish stringent rules, such as prohibiting comparative advertising or paid listings on third-party websites, to maintain unwavering neutrality (Report of the 117th Congress of Notaries of France, The Digital, Humanity, and the Law, 2021, p.45). Moreover, while the digitalization of payments enhances traceability, it also mandates absolute transparency. Clients must receive a detailed breakdown of fees, and notaries are obligated to adhere to standards for managing client funds in third-party accounts, even within an electronic framework, by leveraging secure digital tools to mitigate fraud risks.

However, technology, regardless of its sophistication, must never overshadow the human dimension of the notarial role, which is founded on acting as a counselor and a guarantor of contractual justice (Asahmi.k, 2000, p.8). The use of tools like video conferencing or electronic signatures must be aimed at strengthening the parties' understanding and informed consent, thereby promoting social harmony and preventing future disputes.

Strategically, the transition to a digital notariat requires a comprehensive and planned vision involving professionals, public authorities, and users. This involves several key actions:

Continuous professional development for notaries to master digital tools and understand their legal implications, supported by initiatives like intergenerational mentoring.

Public awareness campaigns through clear communication and technical support to overcome the digital divide, especially for vulnerable populations.

A phased deployment of digital services, beginning with simple deeds before progressing to complex contracts, while maintaining flexibility for less-equipped firms (David Forest, 2024, p. 25).

Governmental support through investment and interconnection with public systems like the land registry.

International cooperation with pioneering countries and within the International Union of Notaries, enabling nations like Morocco to leverage foreign experiences while establishing themselves as regional leaders.

Ultimately, the success of this transformation hinges on a coherent approach that combines training, citizen support, adapted legislation, robust infrastructure, and a global outlook (Note for Digital Development in Morocco by 2025 March 2020, p. 8.). Only then can the digital notariat become a driver of progress that is firmly anchored in its ethical and human values.

Conclusion:

In conclusion, the digital transition of the Moroccan notarial profession constitutes a profound and irreversible transformation, one that transcends the mere modernization of professional tools to reshape the very contours of the authentic deed and of legal certainty. Although Moroccan legislation has established a solid foundation by enshrining the evidentiary equivalence between paper and electronic media, this evolution presents imperative challenges concerning cybersecurity, personal data protection, and the long-term viability of dematerialized archives. The success of this transformation now hinges upon a dual imperative: on one hand, the continuous adaptation of the legislative and regulatory framework to address existing gaps, and on the other, a reinforcement of ethical vigilance. The fundamental challenge is to ensure that the integration of advanced technologies serves to consolidate the notary's central role as a guarantor of public trust and contractual justice, while simultaneously preventing the risks of a digital divide and emergent vulnerabilities.

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