

Digital Afterlife and Post-Mortem Data Governance: Protecting Human Dignity in the Age of Artificial Intelligence.

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Abstract

This study addresses the problematic issue regarding the extension of the right to personal data protection and digital privacy post-mortem, in light of the rapid advancement of artificial intelligence technologies and digital environments that perpetuate an individual's informational footprint even after their biological demise. The study highlights the legislative deficiency suffered by most contemporary legal systems—particularly the European General Data Protection Regulation (GDPR)—due to the restriction of legal protection strictly to living individuals, a limitation that paves the way for the exploitation of deceased persons' digital data in a manner that infringes upon their dignity and informational sanctity.

The study aims to analyze the continuity of the right to digital privacy after death by examining the balance between the deceased's intent, the heirs' rights, and the economic interests of technology companies. Employing a comparative analytical approach, the study examines comparative legislation and the terms of service of digital platforms, alongside relying on philosophical discourse associated with the concepts of autonomy and the moral extension of human personality.

The study concludes that effective post-mortem digital data protection cannot be achieved by relying solely on the policies of digital platforms; rather, it requires the adoption of an integrated legal and technical framework based on the recognition of digital wills, granting them priority over digital adhesion contracts. Furthermore, the study underscores the importance of utilizing blockchain technologies and smart contracts to ensure the automated and secure execution of the deceased's intent, detached from commercial exploitation or privacy violations.

Ultimately, the study reaffirms that post-mortem digital privacy protection constitutes an extension of the principle of human dignity in the digital age, calling for the development of international conventions that recognize the extended digital persona and establish a flexible timeframe for the continuity of personal data protection after death.

Keywords: Digital Immortality, Post-Mortem Privacy, Personal Data Protection, Digital Legacy, Data Governance, Blockchain.

Introduction

The accelerated technological breakthrough within the ecosystems of Artificial Intelligence (AI) and cloud computing has brought about a radical transformation in the adaptation of human existence. Natural death no longer constitutes a cause for the cessation of an individual's behavioral footprint. Contemporary human beings leave behind an enduring digital persona and a virtual estate comprising a massive volume of stored personal data, ranging from confidential correspondences and images to banking and social media accounts. This informational extension of human legacy has engendered a complex legal and ethical dilemma concerning the continuity of the right to privacy and personal data protection post-mortem, and the mechanism for regulating this growing digital inheritance without prejudice to the inherent personality rights of the deceased, the certainty of transactions, and the legal relations existing within digital environments.

Contemporary legal jurisprudence and the global legislative impasse oscillate in approaching this dilemma between two approaches: the property and contractual privatization perspective, which characterises data as an inheritable property subject to agreements concluded with service providers; and the perspective of inherent personality rights, which views data as an inviolable sanctity that must be protected and an extension of the deceased's legal personality. The knowledge gap here lies in the prevalence of regulatory loopholes and globally inconsistent regulations, as well as the reliance of current systems on fragmented judicial precedents and traditional remedies that are incapable of keeping pace with algorithmic exploitation tools. This highlights the pressing need for harmonized international standards and cohesive, multidisciplinary policies that reconcile the legal, ethical, and technological dimensions.

The legal problem of this research crystallizes in the absence of a unified universal legislative standard regulating the rules of succession and sovereignty over the deceased's personal data. This has created significant legal ambiguity and a sharp contradiction in the substantive and procedural rules governing the management of departed users' data. This structural tension manifests in the acute conflict among three key stakeholders: first, the deceased's right to maintain their secrets and exercise informational self-determination post-mortem based on the principles of autonomy and extended human dignity, second, the legitimate patrimonial or emotional claims and interests of the heirs to access digital assets as part of the inheritance; and third, the restrictive policies of global tech platforms and their strict adhesion terms that prevent the transmission of accounts under the pretext of contractual liability and confidentiality protection. Accordingly, this study poses a pivotal question: **To what extent does the right to personal data protection and privacy extend beyond human death in the digital environment, and how can a legislative and technical balance be formulated to protect the deceased's moral intent, fulfill the heirs' rights, and accommodate the platforms' interests without disrupting the imperatives of the technological era?**

This study proceeds from the hypothesis that the post-mortem protection of personal data cannot be guaranteed through restrictive platform policies or classical substantive laws. Instead, it requires clear regulatory frameworks that uphold the explicit digital wills of the deceased and establish a jurisprudential characterization of their incomplete legal personality.

This must be accompanied by the activation of decentralized technological governance innovations—such as blockchain, artificial intelligence executors, and digital intent—to ensure the automated and sovereign enforcement of the deceased's wishes, safeguard them against algorithmic commodification, and uphold human dignity and legal certainty in the governance of digital afterlife.

The methodology of this study is grounded in a composite, multidimensional approach. It integrates a critical analytical method to deconstruct major legislative frameworks—such as the European General Data Protection Regulation (GDPR), the Revised Uniform Fiduciary Access to Digital Assets Act (RUFADAA) in the United States, and the adhesion terms of digital platforms—with a comparative method aimed at elucidating the philosophical variances and jurisdictional disparities among diverse legal systems, particularly those of Brazil, Spain, Europe, and emerging contexts. Furthermore, this analysis is reinforced by a philosophical and foundational method rooted in the theory of post-mortem narrative integrity to establish a jurisprudential basis for the deceased's dignity and autonomy. This is accompanied by a forward-looking/prospective projection onto decentralized technological governance mechanisms to reconcile technical, legal, and ethical dimensions in a manner that achieves legislative harmonization.

1. The Legal Regime of Digital Remains and the Conflict Between Inherent Personality Rights and Patrimonial Claims of Heirs

In the digital age, the demise of the biological body raises the problematic issue of an asynchronous paradox between the inevitable cessation of legal personality and the persistence of its algorithmic footprint within cyberspace. General rules and traditional contract laws stand incapacitated in characterising these remnants due to the dominance of technology corporations, which subject them to adhesion contracts and non-transferable personal user licenses. Accordingly, this chapter aims to deconstruct the conceptual conflict between the extended privacy of the deceased and the patrimonial claims of the heirs, through a research plan structured around two sections:

1.1 The Ethical and Philosophical Dimensions of Informational Self-Determination and the Extended Dignity of the Deceased

The post-mortem protection of personal data transcends purely financial protection to touch upon the very core of inherent personality rights and virtual human dignity. This section requires examining the philosophical roots, international conventions, and constitutional mechanisms that prevent the violation of an individual's secrets after their biological demise, thereby granting them absolute authority over their behavioral footprint.

1.1.1 The Theory of Narrative Integrity and the Deceased's Right to Autonomy Over Their Behavioral Footprint and Personal Data

Traditional rules governing the right to privacy have long established that the right ceases upon the death of its holder, as it constitutes a strictly personal action that is non-transmissible to heirs. Under common law, a deceased individual possesses no right to privacy, since the right to privacy is asserted (or protected) through a personal legal action vested solely in its holder. Consequently, this legal right extinguishes upon the death of its bearer, thereby

legally precluding the estate or any individual from initiating a lawsuit on behalf of the deceased for invasion of privacy¹.

The text underscores the incapacity of the European General Data Protection Regulation (GDPR) to safeguard the data of deceased individuals, given that it restricts its protective scope exclusively to living persons. This limitation creates a procedural vacuum that abruptly extinguishes the digital legal persona immediately upon death. Consequently, this regulatory gap legitimizes the intervention of independent national legislations, such as the Algerian legal framework, to bridge this regulatory deficit. To deepen this analysis, a comparative examination can be conducted with Algerian Law No. 18-07, or a model clause for digital succession may be proposed².

The technological breakthrough in cloud computing and artificial intelligence applications has caused a structural breach in the traditional legal doctrine of inheritance. The continuous digital footprint of the deceased has transformed from mere tangible possessable documents into an interactive existential layer that extends through time as a novel form of human immortality. These variables are grounded in the theory of narrative integrity, which characterises human identity as an integrated behavioral and psychological narrative that guarantees an individual's extended moral existence and the psychological continuity of their connectedness (in accordance with the 2025 theses of Karpos and Trasser, which are rooted in Parfit's philosophy). Accordingly, the locus of an individual's persistence post-biological death shifts from the physical sphere to the left-behind digital data, which encompasses beliefs, intellectual stances, memories, and behavioral traits³.

Accordingly, the legal characterisation of digital replicas and virtual twins must be re-evaluated as an objective extension inherent to the legal personality of the deceased, rather than tangible assets subject to physical inheritance. This entails a legislative obligation upon enforcement authorities to respect the deceased's express intent and execute their sovereign authority in determining the fate of their accounts and intimate information, thereby safeguarding them against post-mortem dissemination or tampering⁴. Jurisprudentially, an individual's right to prohibit the exploitation of their digital footprint is closely linked to the preservation of human dignity and extended moral justice. This draws an analogy with established principles within the legal regime of estates, which mandate the respect of the deceased's non-patrimonial wishes in order to safeguard their dignity and prevent the trivialization of their legacy⁵.

On the level of international instruments, this right derives its legitimacy from Article (17) of the International Covenant on Civil and Political Rights (ICCPR) of 1966, which prohibits arbitrary interference with privacy and correspondence, as well as unlawful attacks

¹ LOPEZ, Alberto B. Posthumous privacy, decedent intent, and post-mortem access to digital assets. *Geo. Mason L. Rev.*, 2016, vol. 24, p. 219 Available at: https://scholarship.law.ua.edu/fac_articles/597.

² Law No 18-07 of 10 June 2018 relating to the Protection of Physical Persons in the Processing of Personal Data, as amended and supplemented by Law No 25-11 of 24 July 2025.

³ KARPUS, Jurgis et STRASSER, Anna. Persons and their Digital Replicas: J. Karpos and A. Strasser. *Philosophy & Technology*, 2025, vol. 38, no 1, p. 25. <https://doi.org/10.1007/s13347-025-00854-z>

⁴ Natalie M. Banta, "Death and Privacy in the Digital Age," *North Carolina Law Review*, Vol. 94, No. 3, 2016, p. 933.

⁵ *Ibid.*, p. 950.

on honor and reputation⁶. This protection is structurally linked to the recognition of the legal personality inherent in human dignity, as prescribed in Article (16) of the same Covenant. Consequently, depriving the deceased of the mechanisms to prohibit the dissemination of their digital secrets constitutes a subversion of this general international principle⁷.

Furthermore, these international protective rules acquire supreme binding force within the domestic legal system pursuant to Article (154) of the 2020 Algerian Constitution, which establishes the supremacy of ratified treaties over statutory law⁸. Since Algeria has officially acceded to the International Covenant, the substantive value of its article (17) possesses a definitive constitutional supremacy over classical general rules of tort law. This shifts an obligation upon both the national judiciary and the legislator to adapt the digital environment to protect the deceased's behavioral footprint.

This tightly woven governance integration manifests within the Algerian legislative system through the reconciliation of two constitutional principles under the 2020 Constitution: first, the protection of personal data as a fundamental right pursuant to Article (47); and second, the guarantee of tangible and moral inheritance under the text of Article (60/ Paragraph 3), which decrees that the right of inheritance is guaranteed⁹. This constitutional interdependence between safeguarding inherent personality rights and guaranteeing the right to inheritance constitutes the solid foundation for the obligations granted to heirs to control and protect the deceased's digital data, characterising it as a legitimate extension of the constitutionally guaranteed estate.

This recognition harmonizes with the philosophical approach of **quasi-property**, historically applied to human corpses. Judicial precedents establish granting an individual absolute authority to determine the fate of their physical remains, which binds the heirs out of reverence for the deceased's moral dignity, despite the absence of classical physical ownership¹⁰.

Consequently, it becomes a fortiori imperative to apply an analogical reasoning that scales digital remains and virtual twins onto this concept. If the law safeguards the moral intent regarding the mortal, perishable body, then the behavioral and psychological extension imprinted within intimate data deserves an identical sovereign protection to preserve its dignity from algorithmic commodification¹¹.

1.1.2 The Axiological Challenge in Balancing the Deceased's Privacy Autonomy with the Emotional and Historical Claims of Heirs (The Extinction of Privacy upon the Demise of the Biological Body)

⁶ International Covenant on Civil and Political Rights (adopted 16 December 1966, entered into force 23 March 1976) 999 UNTS 171 (ICCPR) art 17.

⁷ International Covenant on Civil and Political Rights (adopted 16 December 1966, entered into force 23 March 1976) 999 UNTS 171 (ICCPR) art 16.

⁸ Constitution of the People's Democratic Republic of Algeria 2020, Official Gazette No 82 (30 December 2020), art 154, p 35.

⁹ Constitution of the People's Democratic Republic of Algeria 2020, Official Gazette No 82 (30 December 2020), art 47, p 13.

¹⁰ Natalie M. Banta, *Ibid.* pp. 950-952.

¹¹ VERMA, Balraj, SINGLA, Babita, et MITTAL, Amit (ed.). *Driving Decentralization and Disruption with Digital Technologies*. IGI Global, 2024. pp 76-77. DOI: 10.4018/979-8-3693-3253-5.

The biological demise of a human being confronts the legal system with an axiological and ethical conflict, the core of which is reconciling the deceased's sovereign right to prohibit access to their digital remains to safeguard their privacy and intimate confidentiality, with the shared emotional and patrimonial right of the heirs to retrieve memories and manage estates. This legislative impasse manifests in the comparative judiciary's adoption of the doctrine of inherent personality rights attached solely to the person, which stipulates that inherent personality rights—such as the right to privacy and the protection of reputation—inevitably extinguish upon the death of their holder and are non-transmissible to either the heirs or the estate¹².

Classical judicial precedents confirm the structural incapacity of common law mechanisms to provide an authentic protection for the deceased. In the case of (*Kelly v. Johnson Publishing Co.*, 1958), the American court ruled that the heirs lacked standing to assert the right to privacy on behalf of the deceased, reasoning that it constitutes a strictly personal right that extinguishes upon the demise of the physical body. This deficiency extended to the protection of reputation and moral estate; the ruling in (*Gruschus v. Curtis Publishing Co.*, 1965) established that the right to initiate actions for defamation (libel and slander) lapses upon death, on the grounds that the deceased lacks legal personality within the concept of classical tort law, which consequently renders the conceivability of any compensable psychological or moral harm impossible¹³.

The legislative impasse manifests in the traditional judiciary's adoption of the maxim *actio personalis moritur cum persona* (a personal action dies with the person), which stipulates that inherent personality rights—such as privacy and the protection of reputation—extinguish upon the death of their holder and are non-transmissible to the estate. This was reaffirmed by American precedents, such as the case of (*Kelly v. Johnson Publishing Co.*, 1958), which dismissed a lawsuit filed by the family of a deceased individual whose reputation was defamed, on the grounds that privacy is a strictly personal right. Similarly, the ruling in (*Gruschus v. Curtis Publishing Co.*, 1965) established that the right to bring actions for defamation (libel and slander) lapses upon death.

However, the U.S. Supreme Court brought about a paradigm shift in the case of (*National Archives & Records Administration v. Favish*, 2004) by recognizing the doctrine of **survivor privacy**. The Court prohibited the disclosure of death-scene photographs under the privacy exemption of the Freedom of Information Act (FOIA), aiming to shield the families of deceased individuals from psychological trauma¹⁴.

Wherein the Court affirmed that the protection granted against the dissemination of death-scene photographs does not emanate from an inherent right vested in the deceased

¹² Banta, Natalie M. (2016). Death and Privacy in the Digital Age. *North Carolina Law Review*, Vol. 94, No. 3, pp. 935-937.

¹³ Banta, Natalie M., *Ibid.*, pp. 937-939.

¹⁴ In *National Archives and Records Administration v. Favish*, the U.S. Supreme Court established that families hold a personal privacy interest under FOIA Exemption 7(C) that protects them from the disclosure of death scene photos, unless substantial evidence of government misconduct is provided. This ruling affirmed that the survivor's right to privacy outweighs public interest in disclosure, upholding the "survivor privacy" principle. For the full blog post, see U.S. Department of Justice:

<https://www.justice.gov/archives/oip/blog/foia-post-2004-supreme-court-rules>

themselves, but rather from safeguarding the feelings of the living heirs. Consequently, this leaves the secrets of the departed without any authentic legal cover¹⁵.

Even in cases of supreme court interventions, the legal reasoning remained insufficient to protect the deceased *per se*. In the case of (*Favish, 2004*) before the U.S. Supreme Court, which pertained to preventing the dissemination of death-scene photographs of a government official, the judiciary grounded its protective ruling on the inherent right of the deceased's family to avoid emotional trauma, rather than an inherent right of the deceased to protect the sanctity of their body and secrets. Consequently, this leaves the virtual estate and the digital existence of the departed without direct and independent legal coverage¹⁶.

On the other side of the axiological challenge, relying on traditional succession and testamentary frameworks yields a counterproductive result that clashes with the legator's desire for confidentiality. Classic probate proceedings before courts are inherently public in Anglo-Saxon jurisdictions, whereby the deceased's secrets are transformed into public records accessible to the general populace. This structural contradiction was reaffirmed in the case of (*In re Estate of Hearst, 1977*), where the court refused to seal a probate file to protect the family, reasoning that utilizing judicial mechanisms for estate distribution mandates accepting the full publicity of its records. This was also vividly manifested in the historical incident of the journalist (*Charles Kuralt*), where the public unsealing of his will led to the disclosure of his secret relationships, ultimately destroying his privacy and familial reputation post-mortem¹⁷.

This dilemma becomes increasingly complex within the digital environment when the moral wills of the deceased conflict with the interests of estate executors. Traditional law lacks the **legal standing** required to prosecute an executor for betraying the deceased's wishes, provided that the heirs and the executor mutually agree on the violation. Historically, this ethical challenge manifested in the will of the author (*Franz Kafka*), which mandated his friend and literary executor to burn his unpublished manuscripts post-mortem; however, the latter breached the testamentary disposition and published them to realize their literary and financial value. An identical approach was adopted by the son of the author (*Vladimir Nabokov*), who published his father's final novel despite the explicit request to destroy it¹⁸.

These judicial and literary evidence substantiate the structural incapacity of traditional probate courts and contractual frameworks to provide a secure environment that safeguards the moral intent of the deceased. This justifies the pressing need to adopt contemporary technological governance mechanisms, such as encrypted smart contracts via blockchain, to achieve the rigorous, automated, and self-executing enforcement of digital wills, thereby preventing human betrayal or judicial publicity.

In confronting the classical extinction of privacy upon the demise of the physical body, the Algerian legislator has established a balanced legislative approach. This approach reconciles the constitutional guarantee of the right to inheritance under Article (60) of the 2020 Constitution with overcoming comparative protective deficiencies through Article (35) of Law

¹⁵ Banta, Natalie M., Op. Cit., p. 935, p. 937, p. 941.

¹⁶ Ibid., pp. 940-941.

¹⁷ Banta, Natalie M., Ibid., pp. 944-946.

¹⁸ Ibid., pp. 956-957.

No. 18-07. By doing so, the legislator has directly transferred the procedural right to demand the erasure or blocking of data to the heirs. Consequently, this confers an authentic protective cover upon the Algerian digital estate, safeguarding it from commercial liquidation and public exposure under a comprehensive constitutional foundation that bridges the guarantee of inheritance with the inviolability of personal data¹⁹.

1.2 The Incapacity of Traditional Protective Frameworks and the Contractual Characterisation of Digital Platform Policies

The codification of the deceased's right to extended dignity and informational self-determination clashes with a legal reality where traditional protective frameworks—such as inheritance laws and wills—manifest an incapacity to accommodate the unique nature of digital assets. In the face of this legislative deficiency, digital platforms have unilaterally exerted their authority by imposing a one-sided contractual characterisation of their policies and terms of service. Consequently, examining the adequacy of these private rules and their collision with the deceased's intent becomes an urgent research imperative.

1.2.1 Legislative Deficiency in General Rules and the Impasse of the Extinction of Legal Personality upon Biological Death

The transmission of digital assets faces severe legal and contractual obstacles. The Terms of Service (ToS) of most electronic platform providers impose strict restrictions prohibiting the assignment of rights or the sharing of credentials. Consequently, this renders heirs access to the deceased's digital assets fraught with technical difficulties and contractual breaches²⁰. This contractual stringency coincides with a tangible legislative vacuum in numerous countries, such as the United Kingdom, which lacks explicit statutory laws regulating post-mortem data²¹. Conversely, other nations—such as France, Estonia, Italy, and Latvia—have begun enacting specialized national legislation, thereby creating a state of international legal fragmentation²².

This variance is primarily attributable to the deficiency in the material scope of the European General Data Protection Regulation (GDPR), which restricts protection strictly to living natural persons. Consequently, this leaves Member States with a broad margin of discretion to regulate the processing of deceased persons data, which has led to an absence of cross-border legislative harmonization²³.

¹⁹ Constitution of the People's Democratic Republic of Algeria. (2020). *Official Gazette*, (82), Art. 47, Art. 60, para. 3, pp. 13–15.

²⁰ HOLT, Jack, NICHOLSON, James, et SMEDDINCK, Jan David. From personal data to digital legacy: Exploring conflicts in the sharing, security and privacy of post-mortem data. In : *Proceedings of the Web Conference 2021*. 2021. p. 2745-2756.

²¹ MONCUR, Wendy. 13. Digital ownership across lifespans. *Aging and the digital life course*, 2015, vol. 3, p. 257.

²² DUCATO, Rossana. Data protection, scientific research, and the role of information. *Computer Law & Security Review*, 2020, vol. 37, p. 7.

²³ RÈGLEMENT (UE) 2016/679 DU PARLEMENT EUROPÉEN ET DU CONSEIL du 27 avril 2016 relatif à la protection des personnes physiques à l'égard du traitement des données à caractère personnel et à la libre circulation de ces données, et abrogeant la directive 95/46/CE (règlement général sur la protection des données)

Meanwhile, other nations—such as France, Estonia, Italy, and Latvia—have commenced enacting national legislation in this regard, thereby inducing a state of international legal fragmentation, where domestic laws vary concerning the post-mortem utilization of personal data. Within the European Union, data privacy law restricts its protection exclusively to the rights of the living, leaving Member States with the discretion to determine the parameters for safeguarding deceased persons data. Consequently, certain jurisdictions, such as Estonia, France, Italy, and Latvia, have enacted specific statutes governing post-mortem data, whereas data protection laws in the United Kingdom have failed to do so²⁴.

From our perspective as researchers, we argue that this reality uncovers a deeper problematic issue characterized by the encroachment of **private regulation** exercised by tech corporations through adhesion contracts. Consequently, terms of service have effectively transformed into a parallel law that supersedes established inheritance rules and imposes a unilateral vision of privacy—one that does not necessarily heed the deceased's intent or the heirs' interests.

In our estimation, platforms' reliance on protecting the privacy of **other correspondents** to block heirs' access constitutes a mere pretext to evade the operational and legal costs associated with asset-transfer procedures, thereby perpetuating a reality where the deceased's extended dignity is undermined. Therefore, while we support the shift toward national codification as a preliminary step, we maintain that the radical solution lies in establishing a harmonized global protective framework that transcends the incapacity of traditional mechanisms. Such a framework must rescue the virtual estate from the unilateral authority of platforms, moving it into the wider sphere of **informational sovereignty** which guarantees a balance between the right to be forgotten and the right to inherit.

1.2.2 The Adhesive Nature of Electronic Platform Contractual Terms and Unilateral Control Over Virtual Estates

This regulatory gap unfolds in the practices of global tech platforms, which unilaterally impose restrictive adhesion terms under the pretext of protecting digital privacy. The case of (*In re Ellsworth*, 2005) exemplifies this intransigence, where *Yahoo* refused to grant the father of a slain soldier access to his email account, strictly adhering to the contractual clause that mandates account termination and deletion upon death. The corporation did not comply with transferring the content until a rigorous judicial order was issued by the probate court²⁵.

This incident proves that platform policies do not guarantee authentic protection; rather, they employ privacy as a commercial shield to evade contractual liability, while lacking governance mechanisms that ensure the actual and permanent erasure of data immediately upon death.

Within this context, the dilemma of hybrid data emerges, resulting from the intertwining of the deceased's digital remains with the data and rights of living individuals (such as shared correspondences and group photographs). The General Data Protection Regulation (GDPR) provides a legal pretext for platforms to deny access based on Article 15(4), which prohibits adversely affecting the rights and freedoms of others. Consequently,

²⁴ NOWACZYK-BASIŃSKA, Katarzyna. Digital afterlife leaders: professionalisation as a social innovation in the digital afterlife industry. *Mortality*, 2025, vol. 30, no 2, p 342.

²⁵ Banta, Natalie M., Op. Cit., pp. 960-962.

enabling heirs to penetrate the virtual estate constitutes a violation of the confidentiality of living users, which must be protected as a paramount principle pursuant to the integrity and confidentiality obligations under Article 5(1)(f). This places the interests of the heirs in a permanent, structural conflict with the rights of third parties²⁶.

2. Governance of Digital Inheritance in Comparative Systems and Prospects for Contemporary Technical Protection

The transition from a classical legislative perspective, which is incapacitated in characterising informational remnants, into the realm of contemporary technical and legislative governance constitutes an imperative necessity dictated by the nature of the digital age. While general rules and traditional contract laws suffer from a structural incapacity in confronting the dominance of technology corporations and adhesion contracts, there emerges a pressing need for approaches that balance the technical efficacy of decentralized tools with the political necessity of adopting harmonized international conventions. Through a comparative and forward-looking approach, this chapter aims to decouple digital identity management practices from dependence on centralized entities, moving toward the concept of the self-sovereign individual who autonomously manages their digital self post-mortem.

2.1 Comparative Judicial and Legislative Approaches in Regulating Digital Succession

The regulation of digital succession in contemporary legal systems constitutes a focal point of intense philosophical and legislative conflict, as nations strive to bridge the regulatory vacuum left by classical rules in the face of a data behavioral footprint that transcends biological death. This conflict is confined between two competing rationales: the property rationale, which characterises data as inheritable patrimonial assets, and the privacy rationale, which views data as moral rights inherent to the persona that inevitably extinguish upon the death of their holder.

2.1.1 Legislative Inheritance Models of Personal Data and a Comparative Approach Between European and Latin Systems

Contemporary Latin legal systems and European legislations are shifting toward codifying advanced substantive and procedural mechanisms for the inheritance of digital rights, thereby bridging the regulatory vacuum arising from the absence of extended post-mortem protective rules. However, their efficacy remains constrained by a structural collision with the principle of **data sovereignty**, which mandates that digital information is subject exclusively to the laws and jurisdiction of the state where the data is physically stored. Given that the data of deceased users is often distributed across transcontinental cloud servers owned by multinational technology corporations, heirs confront conflicting legislations that render access to the digital estate governed by the country of storage rather than the country of the deceased. This severely impedes the governance of virtual estates and highlights the incapacity of isolated domestic policies in the face of globalized cloud storage²⁷.

²⁶ Article 15(4), Regulation (EU) 2016/679 (GDPR), p. 17; and Article 5(1)(f), Regulation (EU) 2016/679 (GDPR), p. 7.

²⁷ RAUT, Neelam, AHLUWALIA, Gaganpreet Kaur, PATANKAR, Gauri, et al. *Driving Decentralization and Disruption with Digital Technologies*. IGI Global, 2024, pp. 76-77.

This comparative study is established upon a fundamental conclusion: that the Algerian legislator, through Law No. 18-07 relating to the protection of physical persons in the processing of personal data, has substantively superseded the material philosophy adopted by the European General Data Protection Regulation (GDPR). While the European framework mandated the referral of post-mortem data protection to independent and fragmented subsidiary legislations among Member States pursuant to Recital (27), the Algerian law has provided a direct, sovereign, pioneering, and unified legislative solution in the governance of the post-mortem digital environment, guaranteeing authentic and extended protective rights for heirs.

Under Article (35) of Law No. 18-07, the Algerian legislator has explicitly transferred the procedural right to demand the erasure or blocking of data directly to the heirs. This legislative choice is anchored in a tightly woven structural reconciliation between two constitutional principles within the 2020 Constitution: first, the protection of personal data as a fundamental right under Article (47); and second, the explicit guarantee of human legacy through the tangible and moral right to inheritance secured under Article (60, Paragraph 3). This constitutional integration provides a solid foundation that prevents the commercial liquidation and public exposure of the virtual estate, safeguarding it from algorithmic commodification²⁸.

2.1.2 The Role of Judicial Precedents and Express Digital Wills as a Fragmented Driver to Bridge the Legislative Vacuum and Overcome Platform Restrictions

The role of judicial precedents and express digital wills constitutes a necessity to bridge the global legislative vacuum and confront the strict adhesion terms and unilateral restrictive policies of global electronic platforms, which employ privacy as a commercial shield to evade contractual liability without guaranteeing authentic protection for the deceased or providing clear mechanisms that ensure the actual and permanent erasure of their data²⁹.

This legislative deficiency manifests vividly in the traditional comparative judiciary's adoption of the doctrine of inherent personality rights attached solely to the person, which stipulates that the right to privacy, the protection of reputation, and the moral estate inevitably extinguish upon the biological death of their holder and are non-transmissible to heirs. Historically, American courts have dismissed lawsuits filed by families of the deceased to protect their reputation or privacy based on an inherent right vested in the deceased themselves³⁰, as established by the rulings in the case of the boxing champion (*Kelly v. Johnson Publishing Co., 1958*) and the case of (*Gruschus v. Curtis Publishing Co., 1965*).

The U.S. Supreme Court affirmed in the case of (*National Archives & Records Administration v. Favish, 2004*) that the prohibition against the dissemination of death-scene photographs does not emanate from a right vested in the departed, but rather from safeguarding the feelings of the living heirs. Consequently, this leaves the secrets of the deceased without any direct and independent legal coverage³¹.

Furthermore, subjecting wills and traditional succession frameworks to the jurisdiction of classic probate courts results in the subversion of the legator's purpose regarding

²⁸ Constitution of the People's Democratic Republic of Algeria 2020, arts 47, 60(3), pp. 13, 15.

²⁹ Banta, Natalie M., Op. Cit., pp. 960-962.

³⁰ Ibid, pp. 935-937.

³¹ Banta, Natalie M., op.cit, pp. 940-941.

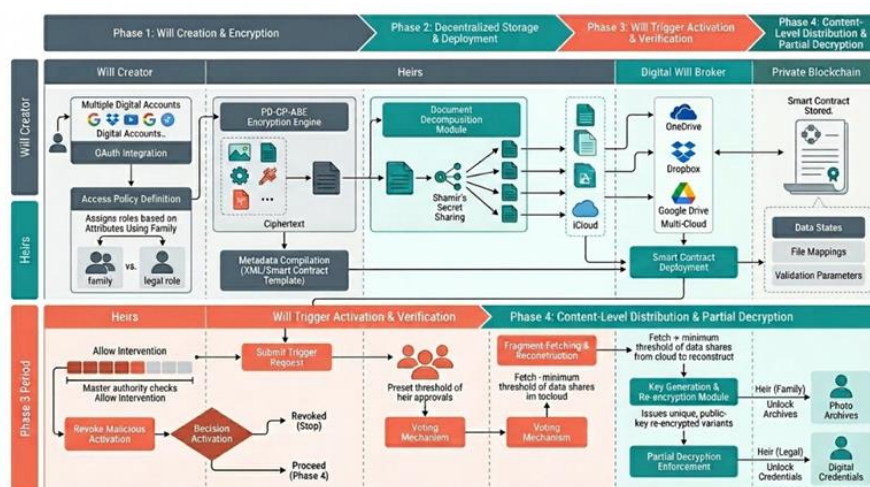
confidentiality. This is due to the public nature of judicial proceedings, which transforms the deceased's family secrets into public records open to the general populace and the press. This was explicitly embodied in the landmark case of (*In re Estate of Hearst, 1977*), as well as the incident involving the journalist (*Charles Kuralt*), whose familial privacy was completely dissipated upon the judicial publication of his will³².

On the same level, another facet of the crisis manifests when the hidden intent of the deceased (moral or literary wills) clashes with the utilitarian interests of heirs and legal liquidators. This conflict drives them to circumvent the legator's wishes in pursuit of financial returns or reputational fame. The refusal to execute the will of the author (*Franz Kafka*) stands as the most prominent historical witness to this dilemma; although he obligated the executor of his estate to destroy his unpublished manuscripts post-mortem, the latter breached this fiduciary commitment and refrained from enforcement, proceeding instead to publish them to the general public.

From the synthesis of these judicial indicators, the incapacity of the classical legislative framework to provide the necessary immunity for the deceased's literary and moral rights becomes fully evident. This reinforces the imperative necessity of activating direct digital wills, which fundamentally requires establishing a jurisprudential framework for the theory of the deceased's extended or incomplete legal personality. Such a framework is vital to safeguard their behavioral footprint and the core components of their digital identity against the risks of algorithmic exploitation and commercial commodification³³.

2.2 A Proposed Applied Model for the Governance of Virtual Estates (BeyondLife Platform)

Building on the observed structural deficiencies in traditional legislative frameworks and the encroachment of strict adhesion contracts imposed by monopolistic technology platforms, there arises an urgent need to transition from philosophical and legal theorization to envisioning tangible technical solutions. To clarify the procedural and security efficiency of the mechanisms protecting informational legacy without infringing upon rights inherent to personality or the privacy of others, we present the following structural diagram that illustrates the procedural flow of the decentralized Beyond Life platform:



³² Ibid., pp. 940-941.

³³ Banta, Natalie M., op.cit, pp. 956-957

FIGURE 1: Structural architecture and procedural flow of the proposed Beyond Life platform.

(Source: Prepared by the author, adapted from Chen et al., 2025)

The structural diagram of the decentralized (BeyondLife) platform represents a technical embodiment of the transition of virtual estates from the environment of monopolistic adhesion contracts imposed by technology companies to the realm of algorithmic informational sovereignty capable of preserving extended human dignity post-mortem. This applied model transcends the dilemma of traditional testamentary rigidity by providing flexible and continuous software channels for updating and deletion, guaranteeing the testator's legitimate and legal right to revoke or modify their will at any time through digital identity protocols and extensible templates (XML) that liberate the estate from the confinement of dependency toward autonomous transfer³⁴.

To counter the risks of algorithmic commodification and breach of confidentiality, the system adopts the technology of fragmenting encrypted documents and distributing them across the cloud as independent shards that carry no informational value on their own, thereby depriving centralized platforms of dominance over the informational legacy, and ensuring its continuity and technical certainty in the event of the collapse or bankruptcy of the technical service provider.

The precise procedural governance is manifested in this scheme by conditioning the software activation upon a request from the heirs that passes through a voting mechanism conditional on a digital threshold, preceded by a temporary freezing period that grants the account owner the opportunity to intervene and thwart malicious activation or hacking attempts prior to their biological death, with the integration of the official authority as a software and judicial safety valve to submit death certificates or judicial orders to resolve cases of voting deadlocks or inheritance disputes³⁵.

The core innovation of the platform, represented by the developed encryption system (PD-CP-ABE)³⁶, offers a radical solution to the most complex crises of private international law regarding data protection related to hybrid data that links the deceased with living persons. It enforces a partial decryption conditional upon status and kinship, isolating the estate from the public nature characteristic of traditional probate courts.

Consequently, the family heir receives only personal archives, while the legal or commercial heir receives financial and professional credentials, thereby preserving the sanctity and privacy of others.

Substantively and constitutionally, this structural model intersects with the pioneering legislative direction of the Algerian legislator in Article Thirty-Five of Law Number Eighteen Zero-Seven, relating to the protection of physical persons in the field of processing personal

³⁴ Xinzhang Chen, Arash Shaghghi, Jesse Laeuchli, and Salil S. Kanhere, "BeyondLife: An Open-Source Digital Will Solution for Posthumous Data Management," *IEEE Access* 13 (2025): pp. 2, 19, [DOI: 10.1109/ACCESS.2025.3576448](https://doi.org/10.1109/ACCESS.2025.3576448).

³⁵ Ibid., pp. 5, 17.

³⁶ Ciphertext-Policy Attribute-Based Encryption with Partial Decryption.

data, which explicitly transferred the procedural right to request the closure or erasure of data directly to the heirs.

This harmony is founded upon the precise constitutional reconciliation within the 2020 Constitution between guaranteeing the protection of personal data as a fundamental right in Article 47 and safeguarding the material and moral inheritance in Article 60. This renders this decentralized architecture an executive, prospective technical tool through which it is recommended to obligate technical service providers to adopt its infrastructure, ensuring the automated and sovereign enforcement of the testator's moral will and protecting it from surveillance capitalism and commodification.

2.3 Technological Innovations and Prospects for Formulating Harmonized International Standards to Protect Human Dignity

Under this section, the governance of virtual estates transitions from the incapacitated classic legislative scope into the realm of algorithmic technical governance as an alternative source for the automated and sovereign enforcement of deceased persons wishes. This shift requires formulating a harmonized cross-border international approach to prevent platforms from controlling and monopolizing digital remains. This is achieved through a precise balance between the technical efficacy of decentralized succession tools and the political necessity of adopting a global instrument that restricts data processing and establishes a flexible concept for the virtual lifespan of privacy.

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2.3.1 Decentralized Technical Succession Frameworks (Smart Contracts and Encrypted Digital Wills) and Challenges of Emerging Technological Environments

Decentralized technical solutions—foremost among which are encrypted smart contracts executed via blockchain technology and artificial intelligence executors—offer promising prospects for achieving the rigorous, automated, and self-executing enforcement of a deceased person's wishes without human intervention or judicial publicity. This reinforces human dignity and safeguards their sovereign intent against algorithmic commodification.

However, alongside structural interoperability barriers, these innovations confront a fatal future challenge linked to the impending breakthrough of quantum computing. The

³⁷ RAUT, Neelam, et al., op. cit., pp. 74- 80.

unprecedented and massive computational capabilities of quantum computers threaten to render current encryption systems and classical algorithmic keys obsolete and useless within a few years. Consequently, this necessitates moving beyond traditional blockchain technology, underscoring the urgent need to invest technically in the development of post-quantum cryptography to ensure that digital shields withstand any future post-mortem breaches³⁸.

Given that the processing of the deceased's personal and behavioral data for the purpose of formulating virtual twins through algorithmic exploitation tools falls within emerging high-risk technologies, modern protective frameworks necessitate subjecting platforms to strict procedural obligations prior to commencing the processing. In this regard, the General Data Protection Regulation (GDPR) constitutes a fundamental reference, mandating under **Article 35(1) and (3)(a)** that data controllers conduct a **Data Protection Impact Assessment (DPIA)** when relying on a systematic and extensive evaluation of personal aspects based on automated processing³⁹.

Inasmuch as the process of reproducing the deceased's moral persona is fundamentally based on digital profiling techniques as defined under **Article 4(4)**, this prior impact assessment becomes an imperative safeguard to prevent the utilization of decentralized technologies in distorting the narrative integrity of the departed or trivializing their post-mortem memory that transcends biological life.⁴⁰

2.3.2 The Virtual Lifespan of Privacy and the International Political Pathway for Adopting a Global Instrument on Post-Mortem Data Governance

The right to post-mortem digital privacy is not an absolute right; rather, it is governed by what is known as the virtual lifespan of privacy. From a historical and political perspective, the intimate value of data diminishes over several decades, transforming into a historical legacy that serves human scientific research. This is precisely analogous to the discovery of undelivered 17th-century letters in the Netherlands, where they were no longer regarded as a violation of privacy, but rather evolved into an academic treasure that unveils the nature of that era⁴¹. This forward-looking proposal finds a flexible legislative regulation that can be applied by analogy within the general rules of the European General Data Protection Regulation (GDPR). Article 5(1)(b) and (1)(e) exempts the processing of data for archiving purposes in the public interest, scientific or historical research purposes, from the strict restrictions prescribed for the purpose limitation principle and the restricted storage duration measures⁴².

Inasmuch as the European legislator has authorized under Article 9(2)(j) the processing of sensitive data for historical purposes, this justifies the recommendation to adopt an approach that integrates technical and legal dimensions. This integration can be achieved by activating

³⁸ RAUT, Neelam, et al., op. cit., pp. 74- 80.

³⁹ Article 35(1) and (3)(a), Regulation (EU) 2016/679 (GDPR), Consolidated Version, pp 30–31.

⁴⁰ Article 4(4), Regulation (EU) 2016/679 of the European Parliament and of the Council (GDPR), Consolidated Version, p. 4

⁴¹ Banta, Natalie M., Op. Cit., pp. 967-968

⁴² Article 5(1)(b) and (e), Regulation (EU) 2016/679 of the European Parliament and of the Council of 27 April 2016 (GDPR), Consolidated Version, p. 7))

pseudonymization and anonymization mechanisms—as provided for in Articles 25(1) and 32(1)(a)—within smart contracts and blockchain technology⁴³.

This integration facilitates the dissolution of the **sovereign confidentiality** of data upon the expiration of a specific temporal threshold (such as a fifty-year timeframe), after which the status of secrecy ceases to exist. Consequently, the virtual estate transitions seamlessly from the vessel of enclosed ownership into the wider sphere of the public historical archive, serving the human cognitive common, without prejudice to the moral consideration of the departed.

To rectify these regulatory loopholes and globalize preservation mechanisms, there emerges a political necessity to adopt a contemporary human rights proposal aimed at codifying a Global Bill of Digital Rights. The purpose of this instrument is to harmonize technological breakthroughs with inherent human personality rights, and to establish a unified reference framework to which both governments and monopolistic platforms must submit. This framework shall guarantee explicit recognition of the inviolability of digital inheritance and individuals inherent right to informational self-determination post-mortem as an extension of human dignity, thereby putting an end to the unilateral hegemony of platforms and the strict adhesion contracts they impose⁴⁴.

3. Conclusion:

This study represents a foundational and prospective treatment of one of the most complex legal and ethical dilemmas in the digital era, represented by the phenomenon of virtual immortality and the conflict between the extended privacy of the deceased and the patrimonial claims of the heirs. The research has succeeded in deconstructing the dilemma of non-synchronicity between the inevitable biological demise of human beings and the continuity of their behavioral and algorithmic footprint in environments enhanced by artificial intelligence. The added value of this work lies in breaking the constraints of classical laws and contractual adhesion policies exercised by centralized platforms, aiming to build a balanced governance model that preserves extended human dignity across life.

The robustness of the scholarly argument in this study is based on a hybrid and multidimensional methodological approach, where the research balanced the deconstruction of major textual structures, such as the European system and the American estate law, via the critical analytical method, and the tracking of legislative gaps and variations internationally through the comparative method. This theoretical structure was supported by philosophical dimensions represented by the theory of narrative integrity and culminated in an applied software simulation of a decentralized technical environment, which granted the study an integration that links jurisprudential theory with contemporary technical reality.

The study yielded decisive scientific results that open new horizons in data jurisprudence:

The failure of global regulatory frameworks, primarily the European General Data Protection Regulation, to provide procedural protection for deceased persons, which legitimizes surveillance capitalism and the algorithmic commodification of their digital remains.

Proving the substantive and constitutional superiority of the Algerian legislator in Article thirty-five of Law eighteen zero-seven, which achieved a genius balance by transferring the

⁴³ Article 25(1) of Regulation (EU) 2016/679 of the European Parliament and of the Council (GDPR), updated version, p. 23.

⁴⁴ Verma, Singla, and Mittal, *Driving Decentralization*, pp. 74 – 80.

procedural right to the heirs based on the constitutional guarantee of the material and moral inheritance.

The software simulation of the BeyondLife platform proved that the developed encryption integrated with the secret-sharing technology represents an inevitable solution to the dilemma of hybrid data and isolates the estate from the public nature of traditional probate courts.

Based on the extracted data, the study lays down a cross-border roadmap for legislators and researchers:

An urgent call to adopt a unified global digital charter that recognizes the incomplete or extended legal personality of the deceased as an extension of sovereign human dignity.

Not merely relying on textual recognition of the digital will, but rather programmatically obligating service providers to adopt a decentralized infrastructure supported by smart contracts to ensure the automated enforcement of the testator's will.

Directing future research efforts toward formulating a flexible framework for the virtual lifespan of privacy, such as the fifty-year system for transitioning into a public historical archive, in parallel with developing encryption systems resistant to quantum computing to ensure the resilience of the digital shields of wills in the future.

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