# Post-Mortem Cryptocurrency Management: Legal, Technological, and Practical Perspectives on Digital Asset Inheritance

***Abstract*— This paper explores the growing importance of the topic of managing crypto-assets in the context of post-mortem scenarios. As the prevalence of cryptocurrencies grows, the question of what happens to these digital assets after the owner's death becomes more critical. The paper investigates the challenges of identifying crypto-assets owned by deceased individuals, considering both on-chain and off-chain transactions. It evaluates different types of crypto wallets and their implications for posthumous asset management. The potential role of exchanges in facilitating the transfer of assets to legal heirs is also examined. Furthermore, the paper discusses various types of tokens and how they might be treated differently upon the owner's death. Finally, the paper provides a comparative analysis of how different legal systems across the world are addressing this novel challenge, offering potential solutions and recommendations for crypto-asset holders and legal practitioners.**

**Keywords—cryptocurrency; inheritance; crypto-assets**

## I. Research Questions

One of the research questions for this paper can be formulated as: *"What are the methods and practices currently in place for managing crypto-assets after the death of the asset holder, and what specific challenges arise in this context?"* This includes exploring the technical and legal complexities involved in accessing and transferring digital currencies posthumously.

Additionally, another research question can be represented by *"What solutions, both existing and proposed, are being developed to address these challenges?"* This question also seeks to examine the role of various stakeholders, such as family members, legal executors, cryptocurrency exchanges, and legal frameworks, in the process of managing crypto-assets after the death of the owner. Furthermore, the research aims to investigate how different jurisdictions around the world are adapting their laws and regulations to accommodate the unique nature of crypto-assets in estate planning and inheritance processes.

## II. Motivation

The motivation for this paper lies in exploring the field of digital asset inheritance as the popularity of cryptocurrencies grows. This research aims to address the knowledge gap in understanding what happens to these assets when the owner passes away. It investigates the legal and technical challenges that arise in accessing and transferring crypto-assets after death, including issues of legal ownership, digital security, and compliance with diverse legal jurisdictions. Furthermore, the paper seeks to provide guidance for a variety of stakeholders such as family members, estate planners, legal practitioners, and cryptocurrency exchanges.. An additional aim is to analyze and suggest improvements in policy and regulatory frameworks, adapting them to accommodate the unique nature of crypto-assets in inheritance processes.

Another aspect of this research is discussing and proposing preventive measures and solutions that crypto-asset holders can adopt to ensure a smooth transition of their digital assets after their demise. By conducting a comparative analysis of different legal systems, the paper offers a comprehensive view of how various countries are addressing this emerging issue. This comparison could reveal best practices and innovative solutions that might be applied.

## III. METHODOLOGY

The paper explores the management of crypto-assets after an individual's death, using a multifaceted research methodology. First, we begin with a literature review, where we analyze existing scholarly articles, legal documents, and case studies related to cryptocurrency, digital asset management, estate planning, and inheritance laws. This review helps us to understand the current landscape and identify any gaps in the existing knowledge. Additionally, we conduct a legal analysis to understand how different jurisdictions are handling the legal complexities of managing crypto-assets after-death. This involves examining a range of statutes, court rulings, and legal precedents. Next, case studies, which provide practical insights into the real-world application of managing digital assets after death, are going to be used. These case studies help understanding the challenges and solutions that have emerged in practice, bridging the gap between theory and real-world application. We also engage in a comparative analysis, where we examine and contrast various strategies and solutions adopted by different countries and cryptocurrency platforms. This comparative study helps in identifying best practices and areas needing improvement. Finally, our research includes a technological section, focusing on the underlying technology of cryptocurrencies, particularly blockchain and wallet security. This section is critical in understanding the technical barriers and potential solutions for accessing and transferring crypto-assets after the owner's death. This section includes analysis of on-chain and off-chain transactions, evaluation of different types of crypto wallets and their posthumous management implications and examination of the role of exchanges in asset transfer to legal heirs.

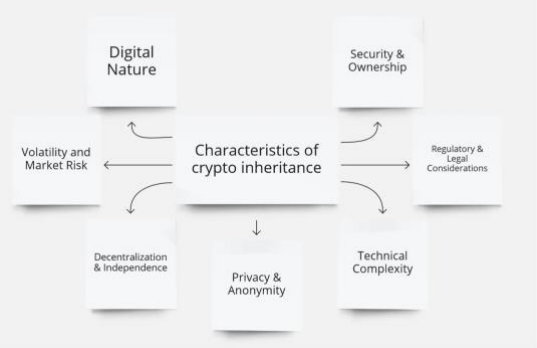


Figure 1: Characteristics of crypto-assets inheritance (Source: medium.com)

## IV. Results and conclusions

The research provides a detailed understanding of the current practices in managing crypto-assets after the owner's death. This encompasses the procedures followed by various cryptocurrency wallets and exchanges, and the common practices employed by heirs and executors. Additionally, the paper offers significant insights into the legal and regulatory frameworks governing these digital assets across different jurisdictions, highlighting the disparities and inconsistencies in legal approaches worldwide.

A crucial aspect of the research is the identification of the challenges in managing crypto-assets after-death. These challenges range from difficulties in accessing encrypted wallets to legal complexities in transferring assets to heirs, and the lack of standardized procedures across different platforms. The paper also investigates the technological barriers associated with accessing and transferring crypto-assets after death, proposing potential technological solutions and best practices for securing assets while ensuring their transferability.

Another significant outcome is the comparative analysis of the effectiveness of various strategies adopted by different countries and cryptocurrency platforms. From these findings, the paper is likely to offer policy recommendations for governments, legal bodies, and cryptocurrency platforms, suggesting enhancements in legal and technological aspects to improve the management of crypto-assets after death.

Finally, the paper potentially provides practical guidelines for individuals holding crypto-assets, advising them on preparation strategies for the eventual transfer of their digital assets. These guidelines aim to ensure legal compliance and security, facilitating a better transition of digital assets post-mortem. Overall, the results from such a paper offer a comprehensive view of the state of posthumous crypto-asset management, addressing legal, technological, and practical considerations.

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