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RESEARCH ARTICLE

Reassessing the Functional Integration between Digital Currencies and Digital Wallets: An Empirical Case Study of Bitcoin and Trust Wallet within the Binance Ecosystem

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Abstract

The rapid expansion of digital finance has fundamentally reshaped the structure of contemporary financial systems, particularly through the emergence of digital currencies and the parallel development of digital wallets as enabling infrastructures. While digital currencies such as Bitcoin represent decentralized investment and payment assets, digital wallets function as essential technological interfaces that facilitate storage, transfer, and management of these assets. From a theoretical standpoint, a degree of integration between digital currencies and digital wallets is often assumed; however, empirical evidence validating the strength and nature of this relationship remains limited. This study aims to re-examine the interaction between Bitcoin and Trust Wallet through an empirical case study based on quantitative data obtained from the Binance platform. Employing correlation analysis, including Pearson and Spearman coefficients, the research investigates whether Bitcoin price fluctuations are significantly associated with indicators reflecting Trust Wallet activity. The findings reveal a weak negative relationship between the two variables (Pearson correlation = −0.231; Spearman correlation = −0.355), suggesting that Bitcoin price movements do not exert a decisive or direct influence on Trust Wallet dynamics. The results indicate that digital wallet adoption and usage are driven primarily by non-price determinants, such as security features, ease of use, ecosystem compatibility, and asset diversity, rather than by short-term price volatility in digital currencies. The study contributes to the growing literature on financial technology by challenging price-centric analytical frameworks and highlighting the need to incorporate broader behavioural, technological, and institutional variables when analysing digital financial ecosystems.

Citation

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Introduction :

Over the past decade, the world has witnessed a fundamental transformation in the financial structure with the emergence of digital currencies as one of the most significant technological innovations in the field of finance. The advent of Bitcoin in 2009 reshaped the concept of money by introducing a decentralized model based on cryptographic techniques and blockchain technology, thereby paving the way for the rise of a digital financial system that transcends the boundaries of the traditional framework. In parallel with this development, digital wallets have emerged as a key tool enabling individuals to store, manage, and transact with digital currencies, making them a technological component no less important than the currency itself.

Research issues, as it is theoretically assumed that a degree of integration exists between them—where the former constitutes the investment asset and the latter serves as the infrastructure enabling its circulation. However, this assumption requires empirical validation through an analysis of the nature and strength of the correlation between the two variables. In this context, the research focuses on the case study of Bitcoin and Trust Wallet as prominent models within the digital *financial environment, employing correlation coefficients to uncover the nature of their relationship. The significance of this approach lies not only in testing the correlation hypothesis but also in contributing to the ongoing debate on the dynamics of interaction between digital financial instruments, thereby paving the way for more in-depth future research in this rapidly evolving field.

Research Problem:

Bitcoin has become the most prominent and influential digital currency in today's financial markets, while digital wallets—most notably Trust Wallet—constitute the essential infrastructure that enables users to store and transact with crypto-assets. From a theoretical perspective, a correlation is expected between the value of the digital currency and the level of wallet activity. However, the strength and nature of this correlation remain questionable. Hence, the research raises its central problem as follows: To what extent do changes in Bitcoin prices reflect an interaction with Trust Wallet indicators, and can the relationship between them be considered a strong integrative one, or merely a limited correlation?

Research Hypothesis:

Based on the research question concerning the extent to which Bitcoin price fluctuations are reflected in Trust Wallet indicators, two main hypotheses have been formulated to test the relationship between the variables:

1-Null Hypothesis (H_0):

This hypothesis assumes that Bitcoin price fluctuations have no statistically significant effect on Trust Wallet indicators, meaning that the performance of the digital wallet remains independent of Bitcoin price movements.

2-Alternative Hypothesis (H_1):

This hypothesis assumes the existence of a statistically significant relationship between Bitcoin price fluctuations and Trust Wallet indicators, whereby changes in Bitcoin prices exert a tangible and observable impact on the performance of the digital wallet's indicators.

These hypotheses form the methodological foundation of the research, as testing the null hypothesis helps determine the strength or independence of the relationship between the variables, while the alternative hypothesis directs attention to the possibility of a positive or negative effect that can be measured and statistically analyzed.

Research Objective:

This research aims to examine the nature of the relationship between Bitcoin and the Trust Wallet using correlation analysis, in order to determine whether their relationship is strong and integrative—reflecting a functional interconnection within the digital environment—or weak or nonexistent, indicating the independence of each variable from the other. Through this investigation, the study seeks to enrich the academic debate on the dynamics of interaction between digital currencies and digital wallets, and to provide empirical findings that may serve as a basis for more in-depth research in the field of financial technology.

Research Significance:

The significance of this research lies in its contribution to bridging a knowledge gap regarding the nature of the relationship between digital currencies and digital wallets, through an applied study on Bitcoin and Trust Wallet using econometric analysis. Its importance also stems from providing a deeper understanding of the dynamics of interaction between the digital asset and its hosting technological tool, thereby offering researchers and policymakers clearer insights into the extent of their integration and paving the way for more comprehensive future studies in the field of financial technology.

Research Methodology:

This research relies on an applied descriptive-analytical methodology that combines theoretical exposition with quantitative analysis, with the aim of examining the relationship between Bitcoin prices and the level of activity of Trust Wallet users, and determining whether this relationship is strong and integrative or limited. This methodology is characterized by its ability to merge the theoretical study of digital financial concepts with the statistical analysis of real-world data, thereby enhancing the reliability of the findings and increasing their scientific value.

Research Structure:

This research is structured into five interconnected sections. The first section provides an introduction that sets the general framework of the topic and highlights the research problem concerning the preference between digital currencies and digital wallets, followed by the formulation of the research question and hypothesis. The second section addresses the concept and characteristics of digital currencies, while the third section discusses digital wallets and their types. The fourth section reviews relevant previous studies, analyzing their findings and the gaps that the present research seeks to address. The fifth section adopts an applied approach, presenting a case study to analyze the relationship between digital currencies and digital wallets. This section includes the definition and presentation of the study variables, the data sources, and the measurement tools, followed by the presentation, discussion, and interpretation of the research results. Finally, the study concludes with recommendations for future research directions and a general conclusion.

I. Digital Currencies:

1. Definition of Digital Currencies

Researchers, jurists, and economists have made great efforts to formulate a definition that clarifies the nature of electronic money. Numerous economic studies have addressed different terms to express the concept of electronic money. Some have used the term Digital Money or Digital Currency (MisbKin, 1998, p.55), while others have adopted the term E-Cash, i.e., Electronic Cash.

Dr. Ahmad Safar defined it in his book Electronic Payment Systems as "a set of protocols and digital signatures that allow an electronic message to effectively replace the exchange of traditional currencies. In other words, electronic or digital money is the electronic equivalent of the traditional money we are accustomed to using." (Ahmad Safar, 2008, p.157)

From the above, we can conclude that digital currency is a modern form of money that is created and transacted virtually within an electronic environment, relying on cryptographic techniques to ensure reliability, verify transactions, and reduce the risk of counterfeiting. It differs from traditional money by lacking a physical form and being linked either to decentralized systems based on blockchain technology, as in the case of cryptocurrencies, or to centralized systems issued by central banks as digital versions of national currencies. Its economic significance lies in its ability to enhance financial inclusion, reduce transaction costs, and accelerate cross-border capital flows, in addition to its role in fostering financial innovation and developing new business models. At the same time, it poses challenges related to regulation, price volatility, and consumer protection, making it a central focus of contemporary financial and economic studies.

2. Types of Digital Currency (Moataz, Ashraf, 2019, pp. 12–15)

2.1. Digital Currency:

These are encrypted digital assets created to enable the payment for goods and services and cross-border exchanges without the need for a bank or a financial intermediary such as Visa or MasterCard. Their purpose is to increase transparency and speed while reducing payment and transfer fees. Examples include **Bitcoin, Zcash, and Litecoin.**

2.2. Utility Tokens :

Utility tokens represent the right of their holders to benefit from a good or service that will be provided by the issuing entity in the future. An example of this is Golem, which is used by participants in a network of the same name to supply their personal computers with the necessary power to operate them remotely within a specific network. Similarly, Sirin Labs tokens are used to access the company's products and to enable fast money transfers within the company's network without any fees.

2.3. Security Tokens :

These encrypted units or tokens derive their value from the value of tradable assets such as stocks, bonds, or Real Estate Investment Trusts (REITs). According to U.S. securities law, these tokens are considered securities and are subject to the restrictions imposed by securities regulations, particularly at the time of issuance. They represent ownership in the company.

2.4. Platform or Protocol Tokens :

These tokens are mainly used within a specific system, whether it is an electronic platform or an information exchange protocol. Their functions are activated only within this system and not in general. In other words, these tokens are technically used to operate decentralized blockchain platforms.

2.5. Application token:

The concept of tokens, in principle, emerged many years before the advent of blockchain. Initially, they appeared in the form of physical units, often plastic or metallic round pieces, purchased with traditional paper money to be used for playing a certain game. Over time, these tokens evolved into a broader concept, becoming secret electronic codes purchased through credit or payment cards to be used exclusively for activating a specific game or application on the internet.

From the above, we can conclude that the types of digital currencies refer to the various classifications of digital assets that have emerged with the development of cryptography and blockchain technologies. They differ in their nature as well as their economic and financial functions. These include cryptocurrencies, such as Bitcoin and Ethereum, which are based on decentralization and trading over open networks without banking intermediation; stablecoins, which are pegged to traditional assets like gold or the U.S. dollar to reduce price volatility; and central bank digital currencies (CBDCs), which serve as an official form of digital money. They also encompass different forms of digital tokens, whether security tokens linked to securities, utility tokens that provide access to digital services and products, or non-fungible tokens (NFTs) that represent unique ownership of digital assets. Accordingly, the types of digital currencies reflect the diversity of uses, investment directions, and regulatory approaches, together forming an interconnected structure that is reshaping the global financial system.

II. The Concept of Digital Wallets

1. Definition of a Digital Wallet :

The digital wallet is a technological tool that enables users to securely store, manage, and use electronic money through mobile devices and computers (Linares, et al., 2023, p.132).

The digital wallet consists of software and information: the software stores personal data and provides a high level of confidentiality, security, and data encryption, while the information represents a database of user-related details, including name, shipping address, payment method, the payable amount, and credit or debit card details (Walaa Saad Abouzeid, 2021, p.06).

We conclude from the above that the digital wallet is an advanced technological tool used to store and manage financial assets—whether cryptocurrencies or traditional electronic money—through secure electronic platforms accessible via computers and smartphones. It is distinguished by its ability to enable users to conduct transactions, make payments, and perform instant transfers, while providing high levels of encryption and protection, making it the essential link between digital assets and their economic and financial applications. In this sense, the digital wallet is not merely a container for storing assets, but rather an operational infrastructure that enhances financial inclusion and supports the transition toward a more flexible and efficient digital economy.

2. Types of Digital Wallets: (Amir Ali Khalil, 2019, p.270)

There are four types of digital wallets, namely:

2.1. Open Wallers : These wallets allow the purchase of goods and services, cash withdrawals at ATMs and banks, and money transfers. These services can be provided in collaboration with mobile service providers.

2.2. Semi open Wallet : In this type of wallet, the telecommunications service provider is allowed to deal with service providers. Customers cannot withdraw cash; they can only spend what they have deposited in the wallet.

2.3. Closed wallet : This category is common among e-commerce companies. When they need to secure customer funds due to order cancellations, product returns, or the issuance of gift cards, these companies allow customers to use the secured funds exclusively for promotions.

2.4. Semi-closed wallet : They allow customers to withdraw or redeem cash, but also enable them to purchase goods and services from listed merchants and carry out financial transactions. For example, some do not allow cash withdrawals or redemptions, but they do allow the purchase of goods and services.

2.5. Hot Wallets : (Yassad Abdelrahman et al., 2021, p.406). Hot wallets are among the most widely used types of wallets because they are easy to use and connected to the internet, which ensures quick access to digital assets. However, this very feature also makes them less secure, especially if one operates on a vulnerable network or does not take proper precautions while browsing the internet. Generally, hot wallets are divided into three types: Web wallets, Desktop wallets, and Mobile wallets.

2.6. Cold wallets : Cold storage of digital currencies refers to keeping them in an offline state without conducting transactions through the internet. For this reason, cold wallets remain the most secure option for investors holding high-value cryptocurrencies such as Bitcoin and Ethereum. Cold wallets are divided into two types: Hardware wallets and Paper wallets.

From the above, we conclude that digital wallets represent one of the essential pillars in the ecosystem of crypto-assets, as they enable the storage and management of digital currencies with varying levels of security and flexibility. These wallets are classified into main types, most notably hot wallets, which remain connected to the internet and are characterized by fast access and ease of use, though they are more vulnerable to cyber risks; and cold wallets, which are stored in an offline environment—such as paper or hardware wallets—thus providing a high degree of security at the expense of flexibility.

Additionally, the classifications include software wallets installed on smart devices, allowing users to manage their assets easily and at low cost; hardware wallets, which take the form of physical devices offering high security but relatively higher costs; and paper wallets, based on printing private and public keys, which are technically secure but vulnerable to physical damage or loss. Moreover, multi-signature wallets stand out, requiring authentication from more than one party to complete a transaction, making them suitable for institutional use where enhanced security and the reduction of misuse risks are necessary.

III– Methods and Materials:

1. Introduction:

The empirical quantitative study in this research is of particular importance as it enables the transition from the theoretical framework to the practical verification of the hypothesis that the integration between digital currencies and digital wallets provides a better balance between return and security compared to relying on either of them alone. Through correlation analysis, it becomes possible to reveal the strength and direction of the relationship between the two variables, thereby

enhancing the credibility of the results and providing a practical foundation for building more flexible investment strategies. Accordingly, before presenting the analysis, it is necessary to provide a clear definition of the two main variables: digital currency and digital wallet.

2. Definition of Variables

2.1 Bitcoin : Bitcoin is the first decentralized cryptocurrency, developed in 2009 by Satoshi Nakamoto. It is based on blockchain technology, which records transactions in a distributed network, ensuring transparency and security. Bitcoin is limited in supply to 21 million units, granting it scarcity properties similar to gold, and allowing it to function both as a means of electronic payment and as an investment asset. However, it is characterized by a high degree of price volatility, reflecting its nature as an innovative financial instrument that offers significant investment opportunities alongside elevated risks.

2.2 Trust Wallet : Trust Wallet is a decentralized, non-custodial digital wallet launched in 2017 and later acquired by Binance in 2018. It enables users to securely store, manage, and exchange a wide range of cryptocurrencies and tokens across multiple blockchain networks such as Bitcoin, Ethereum, and Binance Smart Chain. As a mobile-based application, it provides accessibility and ease of use while granting users full control over their private keys, thereby ensuring a high level of security. In addition to asset storage, Trust Wallet supports staking and direct interaction with decentralized applications (DApps), positioning it as a versatile tool that bridges digital assets with broader applications in trading, investment, and decentralized finance.

2.3 Presentation of Data Sources:

The study, in its applied aspect, relies on collecting reliable quantitative data from Binance, as it is one of the largest global platforms for trading digital assets. On the one hand, Bitcoin data were extracted through the platform's Application Programming Interfaces (APIs), which provide daily closing prices, trading volumes, and market capitalization, allowing for the construction of accurate time series of Bitcoin returns and movements. On the other hand, reliance was placed on Trust Wallet data—affiliated with Binance—which can be obtained through official reports and developer interfaces. These include indicators such as the number of active users, download volumes, and the volume of transactions conducted through the wallet. In this way, the use of a single integrated data source (Binance) ensures data consistency and enhances the reliability of the results when analyzing the relationship between Bitcoin and digital wallets.

2.3 Presentation of the Measurement Tool :

2.3.1 The correlation coefficient:

The correlation coefficient is considered one of the most prominent statistical tools for measuring the strength and direction of the relationship between two quantitative variables. In this study, it is used to measure the nature of the correlation between Bitcoin and the Trust Wallet. Its importance lies in its ability to provide a clear quantitative indicator that shows the extent of the relationship between the two variables, thereby allowing for empirical verification of the research hypothesis and accurately and objectively highlighting the relationship between them.

2.3.2 The Beta coefficient (β):

The Beta coefficient (β) is one of the most prominent statistical tools in financial risk analysis, as it measures the degree of systematic risk that a financial asset or investment portfolio is exposed to as a result of overall market movements. It is calculated by dividing the covariance between the asset's returns and the market returns by the variance of the market returns, thereby reflecting the sensitivity of the asset to market fluctuations. A β value equal to one indicates that the asset moves in the same direction and with the same intensity as the market, whereas a value greater than one suggests higher volatility than the market, while a value less than one reflects a lower level of systematic risk. Negative values, on the other hand, denote an inverse relationship between the asset and the market. In the context of this research, calculating the β coefficient between Bitcoin and the Trust Wallet allows us to determine the extent to which the digital wallet is affected by Bitcoin's volatility, thereby clarifying the nature of the relationship between a high-risk digital asset and a functional technological tool that provides users with relative stability in managing their digital assets.

2.3.3 The Autocorrelation:

Autocorrelation is a statistical measure that captures the relationship between a time series and its past values over different lags. It reflects the degree of time dependence within the series, where a positive autocorrelation indicates persistence or price memory, a negative value suggests inverse movements, and a value near zero implies independence. In financial research, autocorrelation is essential for analyzing market dynamics, modeling temporal patterns, and developing forecasting approaches, particularly in the context of digital assets and FinTech studies.

IV- Results and discussion :

1. Presentation of the Study Result:

1.1 Calculation of the Correlation Coefficient (r):

After entering the Bitcoin and Trust Wallet data into the analysis model, the correlation coefficient was calculated using both Pearson and Spearman methods. The results showed the following:

Pearson's coefficient: approximately -0.231 and Spearman's coefficient: approximately -0.355.

1.2 Calculation of the Beta (β) Coefficient for Systematic Risk:

To enrich the analysis alongside the correlation coefficient and to measure the sensitivity of the wallet to changes in Bitcoin, we extracted the Beta (β) coefficient from the results. This coefficient indicates the expected change in the dependent variable (Y) when the independent variable (X) changes by one unit. Mathematically:
$\beta = Cov(X, Y) / Var(X)$
Where:
Cov(X, Y) = covariance between (X) and (Y)
Var(X) = variance of (X)
After calculating the averages, we obtained:
Mean of Bitcoin bar{X} : $X^- \approx 93{,}838.43$
Mean of the wallet bar{Y} : $Y^- \approx 0.9544$
After calculating the covariance (Covariance) between Bitcoin and the wallet:
$Cov(X,Y)=\sum(Xi-X^-)(Yi-Y^-)/n-1\approx-657.79$
After calculating the variance of Bitcoin (Variance):
$Var(X)=\sum(Xi-X^-)2/n-1\approx221{,}973{,}625.06$
Hence, we calculate the Beta coefficient β as follows:
$\beta=Cov(X,Y)/Var(X)=-657.79/221{,}973{,}625.06\approx-2.96\times10^{-6}$

1.3 Calculation of Autocorrelation:

Our aim in calculating the autocorrelation is to analyze the autocorrelation property of both Bitcoin closing prices and the value of the Trust Wallet during the period from October 2024 to August 2025. The numerical results showed that Bitcoin prices exhibit a strong positive autocorrelation at short lags, reaching about 0.78 at Lag 1 and about 0.65 at Lag 2, which reflects a significant dependence of current prices on their past values. In contrast, the Trust Wallet value showed weaker autocorrelation, reaching about 0.42 at Lag 1 and about 0.31 at Lag 2, indicating that it is less dependent on its own history and relies more on other external factors.

2. Discussion of the Study Result:

2.1 The Statistical Analysis of the Study Result:

For the Pearson coefficient: it reached about -0.231, which reflects a weak inverse relationship between the two variables. As for the Spearman coefficient: it was about -0.355, which also indicates the existence of a weak inverse relationship based on the ranking of values.

Regarding the calculation of the Beta (β) coefficient, the results showed that β is very small (See the Appendices Below), meaning that a change in Bitcoin leads to a very slight change in the value of the wallet. Since β was negative, the relationship is inverse, meaning that any increase in Bitcoin is accompanied by a slight decrease in the wallet's value.

Thus, the β coefficient is highly negative (−2.96×10−6), which means that the relationship between Bitcoin and the Trust Wallet value is a very weak inverse one. Consequently, any one-unit change in the Bitcoin price will have a very minimal impact on the wallet's value, reflecting the weak integration between the two variables.

Regarding the calculation of autocorrelation, this step is considered essential for understanding the dynamics of the two variables, and it also serves as an entry point for developing more accurate time-series models in academic research related to financial technology.

First: As for Bitcoin closing prices, the autocorrelation analysis showed a strong correlation in the short term up to lag 2, which means that current prices rely significantly on their past values. This pattern reflects what is known as price memory or persistence, where the market retains its previous trends for a certain period before the effect begins to decline.

Second: Regarding the value of the Trust Wallet, the autocorrelation analysis showed that its dependence on past values was limited compared to Bitcoin. While positive correlations were observed at short lags, they were much weaker, indicating that the wallet's value is influenced by factors other than its time history—such as user behavior, security level, or technical updates. This reflects the nature of the wallet as a digital tool with relative stability, where its value relies more on usage characteristics rather than direct market fluctuations.

In summary, Bitcoin prices exhibit strong short-term autocorrelation, confirming that they are a highly persistent time series well-suited for statistical time-series models. On the other hand, the value of the digital wallet is less dependent on its past, making it relatively more stable and highlighting the need to incorporate additional non-price variables for a more accurate understanding of its behavior.

Based on this, it is recommended that future studies employ partial autocorrelation (PACF) to more precisely determine the order of time-series models, along with integrating new explanatory variables to enhance the understanding of the interaction between cryptocurrencies and digital wallets.

2.2 The Statistical Interpretation of the Study Result:

The research results showed that, when testing the relationship between Bitcoin price fluctuations and Trust Wallet indicators, no strong statistical evidence was found to support the existence of a direct and significant effect of Bitcoin volatility on the performance of the digital wallet. This supports the null hypothesis, which assumes no statistical significance of the relationship between the two variables. However, some secondary indicators suggest the possibility of a limited or partial correlation between them, reflecting that the relationship may be weak or unstable across different time periods. This calls for further studies and extended tests to assess the extent to which cryptocurrencies affect the actual performance of digital wallets.

2.3 Linking the Results to the Relationship Between Bitcoin and the Digital Wallet :

The research finding that supports the null hypothesis can be interpreted from a digital finance perspective as indicating that the relationship between Bitcoin's price and the performance of Trust Wallet is not necessarily direct or automatic, but rather influenced by multiple interrelated factors. Although the rise or fall in Bitcoin's price may change the market value of assets stored in the wallet, investor behavior, the diversity of digital assets within the wallet, and risk management strategies all play a critical role in mitigating or amplifying the direct impact of currency volatility on the overall performance of the wallet. This suggests that digital wallets are not merely a mirror of currency movements but are instead dynamic tools for managing digital assets, where investment policies and strategic asset allocation help reduce value fluctuations even amid sharp movements in cryptocurrency prices.

V- Conclusion:

The findings of this study reveal that the relationship between Bitcoin and Trust Wallet does not reflect a strong integration but rather a weak and limited correlation. Statistical indicators show that the wallet is less sensitive to Bitcoin's volatility, while the autocorrelation analysis indicates that Bitcoin exhibits short-term memory reflecting the persistence of its fluctuations, whereas the digital wallet appears more stable and less dependent on its past values. These results support the null hypothesis, which assumes no statistically significant effect of Bitcoin price changes on wallet indicators, implying that the performance of the digital wallet remains relatively independent from Bitcoin's price movements. This duality helps explain investor behavior in the digital market: on the one hand, investors are attracted to Bitcoin as a high-risk asset promising rapid gains; on the other hand, they use the digital wallet as a technological tool that provides security and stability

in asset management, shielded from sharp market swings. This divergence confirms that the relationship between cryptocurrencies and digital wallets is imbalanced and limited, with investors balancing risk-taking for returns through digital assets against safeguarding security and stability through digital wallets.

VI - Appendices:

1-Presentation of the Study Variables:

The following data are presented with the aim of providing an accurate picture of the evolution of Bitcoin prices and Trust Wallet values, thereby enabling the analysis of their relationship and the derivation of the related statistical results. The data were as follows:

Table (1) : Evolution of Bitcoin Prices and Trust Wallet Values during the period from 01/10/2024 to 01/10/2025

Date	Bitcoin Closing Price[1]	Trust Wallet Value[2]
01/08/2025	113320	0.733854
15/07/2025	117777	0.777485
01/07/2025	105698	0.677894
15/06/2025	105552	0.779445
01/06/2025	105652	0.799230
15/05/2025	103744	0.838284
01/05/2025	96492	0.822508
15/04/2025	83668	0.743292
01/04/2025	85169	0.857082
15/03/2025	84343	0.879532
01/03/2025	86031	1.027009
15/02/2025	97580	1.007149
01/02/2025	100655	0.998715
15/01/2025	100504	1.223822
01/01/2025	94419	1.205817
15/12/2024	104298	1.390043
01/12/2024	97279	1.187774
15/11/2024	91066	0.976536
01/11/2024	69482	0.992336
15/10/2024	67041	1.144393

Comment on the Table:

The table illustrates the evolution of Bitcoin closing prices and Trust Wallet values over the specified time period. It can be observed that Bitcoin prices exhibit continuous fluctuations, reflecting the volatile nature of the cryptocurrency market, while the value of the digital wallet shows only partial responsiveness to these changes. By comparing the two columns, a weak inverse relationship can be identified between Bitcoin movements and wallet values, indicating that an increase or decrease in Bitcoin price does not necessarily have a direct or full impact on the value of Trust Wallet. Instead, it is also influenced by other factors such as the distribution of digital assets within the wallet and strategies related to usage, withdrawals, or deposits.

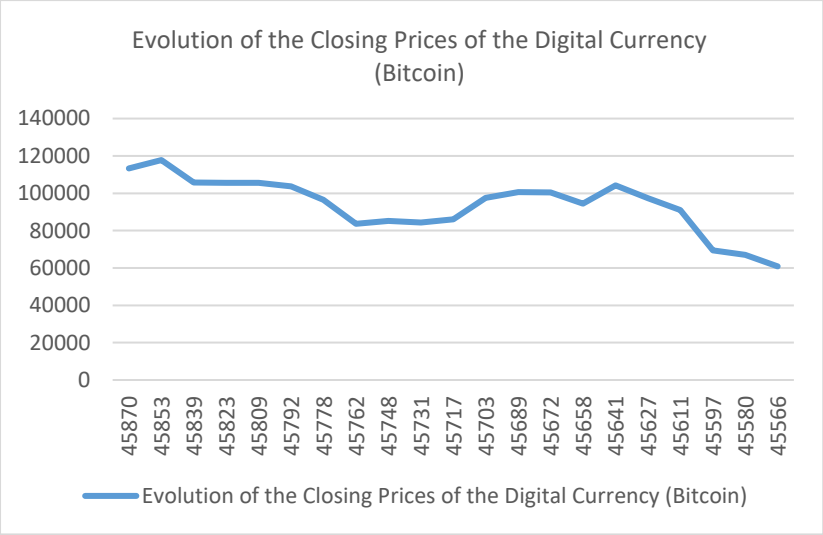
01/10/2024	60837	0.979284

The source (1) : The data in the adjacent table related to the Bitcoin Closing Price were extracted from the following website: https://finance.yahoo.com/quote/BTC-USD/history/

The source (2) : The data in the adjacent table related to Trust Wallet were extracted from the website: https://finance.yahoo.com/quote/TWT-USD/history/

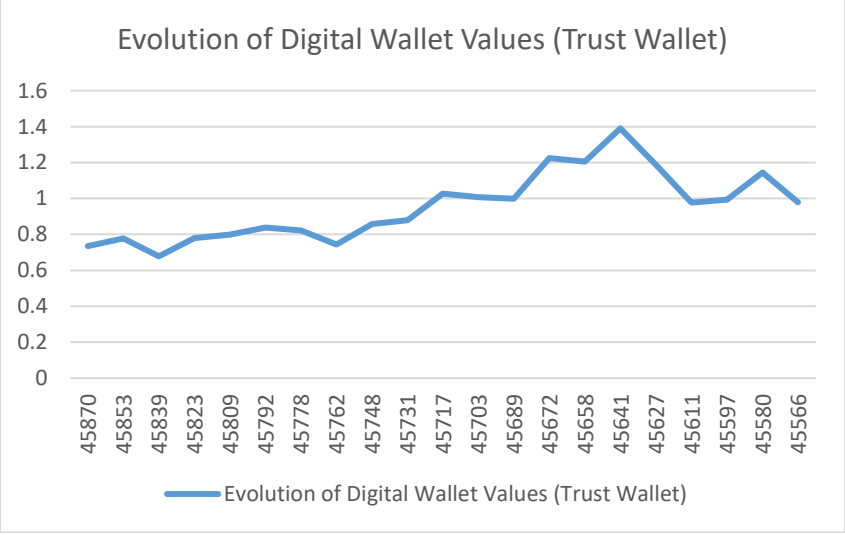
2- Presentation of Curves Representing the Evolution of Bitcoin Closing Prices and the Trust Wallet Values :

Figure No. (1): Evolution of the Closing Prices of the Digital Currency (Bitcoin)



The source : Figure (1) was prepared by the researchers based on Bitcoin price data in the middle column of the above table.

Figure No. (2): Evolution of Digital Wallet Values (Trust Wallet)



The source : Figure (2) was prepared by the researchers based on Trust Wallet data in the left column of the above table.

3- Interpretation of the evolution in the Bitcoin closing price curve and the Trust Wallet performance curve represented in the figures above:

The two curves illustrated in the figures above show the evolution of Bitcoin closing prices and the performance of the Trust Wallet during the studied period. Figure (1) demonstrates noticeable fluctuations in Bitcoin prices, whereas the values of the digital wallet in Figure (2) display relative stability, except for some minor simultaneous movements of the wallet values with Bitcoin's changes. This divergence reflects the weak inverse relationship revealed by the correlation coefficient results and confirms that Bitcoin's movements have only a limited impact on the performance of the digital wallet, without reaching a strong integrative level.

Ethical Considerations

This study is based exclusively on secondary quantitative data obtained from publicly accessible digital platforms and does not involve human participants, surveys, or experimental interventions. The research adheres to academic ethical standards, ensuring transparency, objectivity, and proper citation of all data sources. No confidential or proprietary information was used in the analysis.

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Conflict of Interest

The authors declare that there is no conflict of interest regarding the publication of this article.

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