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AN ASSESSMENT OF THE IMPACT OF THE ADOPTION OF CRYPTOCURRENCY ON YOUTH EMPLOYMENT IN KANO METROPOLIS, NIGERIA

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ABSTRACT

This study investigates the potentials of cryptocurrency on youth employment in Kano Metropolis, Nigeria. The research explores the relationship between cryptocurrency usage and youth employment, with a focus on understanding how its adoption can create new economic opportunities. Primary data were collected through structured questionnaire administered to 200 respondents selected among youths aged 18 to 35 in Kano Metropolis, from different geographical clusters; out of which 150 (75%) responses were successfully retrieved. The data were analyzed using binary logistic regression model to examine the relationship between cryptocurrency usage and youth employment. Marginal effects were also computed to interpret how changes in the explanatory variables including age, gender, education level, employment status and cryptocurrency usage, affect the probability of being employed. The results reveal that age bracket of 21-30 and 31-35 are more likely to be employed, while females are less likely to be employed (marginal effect=-0.000478) in the study area. The analysis also reveals a negative relationship between cryptocurrency usage and youth employment, with a marginal effect of -0.0873. In contrast, the income derived from cryptocurrency shows a positive relationship with youth employment, evidenced by a marginal effect of 0.0616. Although cryptocurrency adoption provides alternative income streams, its overall impact on formal employment opportunities remains limited. Thus, the study recommends that youth should be educated on digital finance, blockchain technology and risk management through programmes organized by schools, financial institutions and government agencies. Also, young people should be encouraged to explore stable crypto-related opportunities such as freelancing and blockchain.

Keywords: *Cryptocurrency, Blockchain, Innovation, Youth Employment, Logistic Regression*
JEL Classification Code: *O31; O33; J21; C25*

1.0 Introduction

Employment is critical to a country's economic growth and development because it enables individuals to earn income and contribute to the economy. Beyond economic benefits, employment plays a vital role in reducing poverty and income inequality. For these reasons and many others, increasing employment remains a top priority for governments worldwide. Nigeria is estimated to have over 200 million people and is known for its high unemployment rate and a challenging environment for entrepreneurship and business development. The Nigeria Bureau of Statistics (NBS) published an unemployment rate of 33.3% in the fourth quarter of 2020, making it one of the highest rates globally. The youth unemployment rate is particularly concerning, reaching 42.5% during the same period (NBS, 2021). As a result, many individuals have turned to blockchain technology and cryptocurrency, as a means to enhance their financial well-being (Ajibola et al, 2024).

One of the biggest inventions of technology in the modern world that has attracted significant public attention is the phenomenon of cryptocurrencies. According to some opinions, this is the biggest technology invention in the last ten years (Milutinovic, 2018). In recent years, the global financial landscape has witnessed a significant transformation with the emergence and proliferation of cryptocurrencies. The advent of this digital currency has affected several countries in different ways. Nigeria, a populous African nation with a vibrant economy has not remained untouched by the cryptocurrency phenomenon. The country has experienced a surge in cryptocurrency adoption with a growing number of individuals and businesses engaging in crypto-related activities such as trading, investment and remittances (Ijaola & Inusa, 2024).

Nigeria has a significant presence in the global cryptocurrency market and is recognized as a leader in Africa for crypto adoption (Chainalysis, 2023). Despite past restrictions by the Central Bank of Nigeria (CBN), the country boasts one of the highest rates of peer to peer (P2P) crypto trading globally, with a reported $56.7 billion in transaction volume between mid-2022 and mid-2023 (Paxful, 2023). Approximately 35% of Nigerians aged 18-60 are involved in cryptocurrency trading largely driven by inflation, currency devaluation and limited access to traditional banking (Statista, 2023).

The cryptocurrency business offers various opportunities that directly address unemployment by creating new income streams and employment roles in the digital economy. For instance, the rise of cryptocurrency trading platforms, blockchain technology, and decentralized finance (DeFi) applications has generated demand for skills such as software development, digital marketing, and financial analytics (Ajayi, 2021). Moreover, freelance platforms and gig economies increasingly use cryptocurrencies to facilitate cross-border payments, enabling youths to engage in global job markets despite local economic challenges (Eze, 2023). In Nigeria, where unemployment rates remain high, these opportunities are significant as they provide alternatives to traditional employment constrained by limited job openings, corruption, and economic stagnation. However, the volatility of cryptocurrency markets and lack of regulatory clarity raise concerns about the sustainability of such ventures as reliable sources of employment (Ogunleye, 2022). Understanding the balance between opportunities and risks is vital to assessing cryptocurrency's role in addressing youth unemployment, particularly in regions like Kano state where economic diversification is crucial.

The adoption of cryptocurrency in Nigeria has opened new avenues for financial inclusion and youth empowerment. Despite these advancements, the overall impact of cryptocurrencies on youth employment remains unclear. Evidence suggests that cryptocurrency trading, blockchain technology development, and freelance services facilitated by digital assets have provided alternative sources of income for many unemployed youths (Ajayi, 2021). However, challenges such as market volatility, regulatory uncertainty, and the digital divide limit the inclusivity and sustainability of these opportunities (Eze, 2023). This study seeks to investigate the relationship between cryptocurrency adoption and youth employment in Kano Metropolis, with a focus on understanding whether these digital innovations can create sustainable job opportunities, reduce unemployment, or simply offer temporary income streams for a select few. Addressing these questions is critical for evaluating the role of cryptocurrencies in fostering economic empowerment and tackling unemployment among Nigerian youths.

The objective of the paper is to explore the relationship between cryptocurrency usage and youth employment in Kano metropolis, with a focus on understanding how its adoption can create new economic opportunities. The paper is organised in five sections including the Introduction. Section two reviews literature and section three presents the methodology

adopted to achieve the objectives of the paper. Section four contains the presentation and analysis of the empirical findings and the final section concludes the paper.

2.0 Literature Review

2.1 Conceptual Review

Blockchain, the underlying technology of cryptocurrencies, is a decentralized ledger system that records transactions securely and transparently. Its adoption has created a demand for various technical and non-technical roles, thereby contributing to employment generation in diverse fields. The blockchain operates in the digital currency ecosystem, so when a user requests a transaction, it is first broadcasted to the network of nodes, by means of well-known algorithms, the network of nodes authenticates the transaction and user's status. Upon completion of the transaction, the block is then linked to the previous block by a cryptographic process to prevent alteration (Zheng et al, 2018). The first block is known as the genesis block, and the next block is connected to it, so it continues forming a chain of blocks. A block can contain a number of transactions, depending on the block size and the size of transactions. Blockchain technology extends beyond its role in powering cryptocurrencies and can be utilized in various socio-economic applications. First, blockchain technology has led to increased demand for software engineers and developers, who are skilled in creating and maintaining blockchain networks. Blockchain has emerged as a significant technology driving the future of jobs especially in IT, finance and supply chain management (Sarmah, 2018).

Companies exploring blockchain need strategists and consultants to identify its application in business. These roles involve designing blockchain use cases for industries like healthcare, logistics and real estate. Enterprises investing in blockchain are simultaneously creating opportunities for professionals in business strategy and innovation (Tapscott & Tapscott, 2016).

2.1.1 Concept of Cryptocurrency

Cryptocurrency represents a digital asset, whose main purpose is to be a medium in exchange, and while doing that, it uses cryptography, so that all transactions are secured; everything new that appears is controlled by its own system (Milutinovic, 2018). One of the areas of applications of blockchain technology is the issuance and management of cytocurrencies. Many consider it the most groundbreaking invention of the past decade.

Cryptocurrencies can be categorized into those operating on a decentralized system and those utilizing a centralized blockchain system. In decentralized systems, every computer functions independently, with no governing institution overseeing operations. A key feature of this system is transaction anonymity, where control is distributed among all participants, but no single entity holds authority. Conversely, centralized systems are managed by a specific group of people who oversee the currency and ensure its stability, often following the 'know your customer' principle. This approach aims to prevent financial misuse by enabling currency tracking and taxation (Investopedia, 2024). There are thousands of cryptocurrencies available, but the following are some of the most notable ones include: Bitcoin (2009), Ethereum (2015), Ripple (2012), Litecoin (2011), Monero, Ethereum Classic, NEM, Dash, IOTA, Waves, and many others.

According to Holmeier and Sandner (2019), there are many advantages of cryptocurrency. Firstly, crypto possesses accountability and transparency properties which collectively win the trust of the participants. Secondly, it possesses the decentralization future so that no central authority can control. Again, absence of intermediaries such as banks allows for speedy money transfer. Also, cryptocurrency enhances financial inclusion particularly of

those that have been excluded from the conventional financial system. Lastly, cryptocurrency creates employment opportunities, particularly to young people, through both mining and trading. Despite its advantages, cryptocurrency is faced with few challenges, especially in developing countries (Agu, 2020). Foremost, cryptocurrency is susceptible to online attacks. Secondly, it is often used for money laundering, particularly as no central authority monitors the transactions. It is also vulnerable to hackers' abuse. Again, it is highly risky due to volatility in its value, posing threats to investors. Moreover, there is absence of laws and regulations governing the transactions, which together pose further threats.

Nigeria ranks among the top countries in cryptocurrency trading. Between 2015 and 2020, Nigerians conducted bitcoin transactions worth nearly $600 million (Ndukwe, 2021). Additionally, several foreign crypto exchanges operating in Nigeria, have a combined transaction trade volume exceeding N4 billion naira weekly (CBN, 2021). Cryptocurrency, thus, is a $2 trillion market that cannot be ignored (Agama, 2021). There is an uptick in cryptocurrency usage, as more and more corporations and merchants are adopting cryptocurrencies as a treasury asset and a means of payment (Kumah and Odei-Mensah, 2021).

Nigerians embraced the cryptocurrency trend early, with many individuals creating opportunities for themselves and contributing to the country's growth through cryptocurrency trading and services. According to Techpoint Africa, Nigerians transacted over $400 million worth of cryptocurrency on local exchanges in 2020. This has also resulted in a rise in funding for crypto fintechs from both local and international investors (CBN, 2021).

Many young Nigerians who work as freelancers now receive their fees in cryptocurrency. Many youth-driven initiatives and startups are also utilizing cryptocurrencies to enhance job opportunities in the country. Bitcoin has become key tool for empowering young Nigerians to access international clients, expanding their employment opportunities. Again, Nigeria is one of the only eight African countries with a bitcoin ATM, with blockchain deploying the ATM in July 2020 (NIPC), further expanding access to cryptocurrency and enabling more youth to participate in the global economy.

2.1.2 Youth Unemployment in Nigeria

Youth represents the future of any society, as their energy and skills play a vital role on driving societal development. However views on who qualifies as a youth differ among key development stakeholders, including governments, international organizations, and individuals. The term youth typically refers to the transitional phase of life between childhood and adulthood. In many countries, adulthood is legally recognized at the age of twenty one, although this can vary across societies, particularly within African cultures and traditions.

The concepts of youth employment and empowerment have become increasingly significant in the development agendas of governments, regional organizations, and international development agencies. According to the World Bank's World Development Report 2023, efforts to address poverty among young people must be guided by a comprehensive national framework involving governments, donor agencies and civil society organizations. Youth employment is a critical socio-economic issue that significantly influences the stability and growth of economies worldwide. Defined as the participation of young people in the labour market, youth employment often refers to the demographic group aged between 15-24 years. The challenges associated with youth employment are multifaceted, ranging from insufficient job opportunities to lack of skills and experience, creating barriers that hinder the smooth transition from education to employment.

The International Labour Organization (ILO) defines youth unemployment as the percentage of young people who are actively seeking employment but remain jobless. This figure often masks other problems such as underemployment (where young workers are employed in jobs below their qualifications) and informal employment (where workers lack jib security and benefits) (ILO, 2020).

Nigeria, like many developing countries, grapples with numerous challenges such as poverty, terrorism, political instability and, most notably, unemployment. In recent years, the escalating unemployment rate has significantly affected young school leavers who are within the working age but continue to face barriers to employment. According to the National Bureau of Statistics (2023), youth unemployment stood at approximately 53%, reflecting limited job opportunities, skills mismatches, and inadequate education systems. The informal sector absorbs a significant proportion of the youth workforce, often under precarious and low-paying conditions.

Cryptocurrencies have emerged as a significant economic tool for youth in Nigeria, primarily due to their ability to bypass traditional financial systems. The adoption of blockchain-based currencies like bitcoin and stablecoins as created avenues for wealth accumulation, entrepreneurship, and job creation, particularly in an economy struggling with youth unemployment. In 2024, Nigeria ranked second globally on the Global Crypto Adoption Index, reflecting the high level of integration of cryptocurrencies into daily transactions and investments. Cryptocurrencies have opened various pathways for youth employment in Nigeria by fostering digital entrepreneurship and innovation. Young people engage in activities such as cryptocurrency trading, blockchain development, digital marketing for crypto projects, and content creation (Okoroafor & Leirvik, 2021). These opportunities have allowed Nigerian youths to traditional employment barriers, particularly in an economy where youth unemployment stood at 42.5% as of 2023 (National Bureau of Statistics, 2023).

In addition, the rise of decentralized finance (DeFi) platforms has enabled youths to provide peer-to-peer financial services, such as lending and borrowing, using cryptocurrencies (Ajibola et al, 2024). This has expanded financial inclusion, particularly for unbanked individuals, creating new markets and employment opportunities. The growing popularity of cryptocurrencies has led to increased demand for blockchain-related skills. Young Nigerians are acquiring expertise in coding, blockchain engineering, and crypto analytics, positioning themselves as competitive players in the global tech economy (Adebayo, 2020). Educational initiatives, such as workshops and online courses, have further facilitated skill acquisition in this field (Onyema, 2023).

2.2 Empirical Review

Surveying the literature on the relationship between crypto adoption and youth employment reveals that there is a paucity of researches in this area of endeavor. We review a handful of them in this subsection.

Hileman and Rauchs (2017) explored global cryptocurrency adoption and highlighted the role of blockchain and technology in creating decentralized job opportunities. They argued that tasks such as digital asset management, smart contract development, and cryptocurrency consultancy are becoming increasingly popular among young people with digital skills.

Olayemi and Okeke (2021) conducted a study on the impact of cryptocurrency trading on youth in Lagos, Nigeria. Using a survey of 300 participants aged 18-30, their findings revealed that 67% of respondents earned a steady income through trading and cryptocurrency-related

activities such as mining and staking. The study emphasized that cryptocurrencies provide a viable avenue for financial independence, particularly for tech-savvy youth.

Similarly, few studies have directly focused on Kano state. However, Musa and Sani (2021) provided insights into cryptocurrency awareness and usage in northern Nigeria. They found that while youth in Kano state have a growing interest in digital assets, adoption is limited due to inadequate access to internet infrastructure and digital tools. Their findings suggest that increased awareness campaigns and investment in digital infrastructure could enhance the adoption of cryptocurrencies for employment purposes.

A study by Adekunle and Olanrewaju (2022) examined the role of Bitcoin in promoting entrepreneurial activities among Nigerian youth. Based on interviews and financial data from small businesses in Kano State, the researchers found out that cryptocurrencies enables young entrepreneurs to bypass traditional banking challenges, such as limited access to loans and high transaction fees. The study also concluded that cryptocurrencies reduce entry barriers, enabling more youth to start and scale their businesses.

In addition, Onyema (2023) examined the Nigerian government's ban on cryptocurrency transactions through traditional banks. The study found that the policy disrupted youth employment opportunities tied to the sector, forcing many to rely on peer-to-peer platforms, which are less efficient and more prone to fraud.

Pumcharoen (2024) empirically examined the effect of Bitcoin adoption on employment, GDP, FDI, and remittances in El Salvador, using secondary time series quarterly data spanning the period of 2010q1 to 2023q3. Interrupted Time Series, Ordinary Least Square, and Vector Autoregressive methods were used for the analysis. The results indicate that Bitcoin reduces unemployment rate by 6.6%. Moreover, the digital currency was found to decrease FDI inflow in all methods. Again, the results show that Bitcoin has a positive impact on GDP and remittances, and provides incentives for economic improvement in El Salvador.

Bibi (2025) explored the economic implications of cryptocurrency, including employment generation, as well as policy response to crypto in Pakistan. Qualitative approach of analysis using secondary data was used to understand how Pakistan's crypto adoption is shaping the future of its economy and financial system. The study was able to highlight how cryptocurrency was able to shape financial inclusion, international remittances, inflation hedging, and informal investment, which ultimately influences employment opportunities in Pakistan. The crypto-related regulatory vacuum was also highlighted by the paper and the role that the State Bank of Pakistan would play in regulating digital assets, which include evaluation of potential risks, control of money laundering, and other forms of cybercrimes.

This review has revealed key gaps in the existing literature. While studies have explored cryptocurrency adoption and its potential to create jobs, limited research focused specifically on Kano State (Musa & Sani, 2021; Adekunle & Olanrewaju, 2022). Furthermore, most researches on employment generation focused on formal jobs but overlooked broader employment opportunities for youth, particularly in the informal sector. Lastly, most of the researches reviewed in this area are obsolete.

2.3 Theoretical Framework

Diffusion of Innovations Theory

The diffusion of innovations model was first hypothesized by Everett Rogers in 1962 in his book "Diffusion of Innovations". Scholars in a range of sectors, including education, economics, marketing, geography and sociology, have all performed diffusion research in

their own unique ways. The Rogers study is the modern foundation of diffusion research. A diffusion study explores the factors that determine whether a group of people adopts a new concept, product or behaviour. Understanding how to accelerate the diffusion of an innovation has become increasingly significant (Rogers, 1983). Rogers defines diffusion as "the process in which an innovation is communicated through certain channels over time among members of a social system". Innovation, communication channels, time, and the social system are the four fundamental aspects in this idea. Every diffusion study contains these elements. Rogers defines innovation as "an idea, practice or object that is perceived as new by an individual or other unit of adoption".

Diffusion research generally examines the role of communication channels in the adoption process. A communication channel is defined as "the method through which information is shared between individuals". According to the theory, the evaluation of an innovation has always been attributed to feedback from others who have already adopted it. The rate of adoption is defined by Rogers as "the relative speed at which an innovation is embraced by members of a social system", which is normally measured by the time it takes for a specific percentage of individuals to accept a new idea. Individuals are categorized as innovators, early adopters, early majority, late majority or laggards, based on their level of innovativeness, which determines their likelihood of adopting an innovation.

In the context of this research, we employ Diffusion Theory as theoretical framework to understand how adoption of cryptocurrency as a new innovation determine the extent to which a youth is employed within Kano Metropolis.

3.0 Methodology

This study adopts a survey design to examine how cryptocurrency adoption influences youth employment in Kano State. The design is appropriate for this research because it enables the collection of quantitative data to describe trends, patterns, and relationship between crypto and youth employment in Kano State.

3.1 Population and Sample

Kano Metropolis is one of the most populated cities in the country with approximately 4,910,000 residents, second only to Lagos (Worldometer, 2025). However, the population of this study comprises youths aged 18 to 35 in Kano metropolitan area. Although the exact number of the youths may not be ascertained, but a significant portion of the state's population falls within that age range since about 65% of the population are below the age of 35 (NBS, 2021). This age group is selected because it represents the most active population involved in cryptocurrency adoption and digital economic activities (Adekunle & Olanrewaju, 2022). The study focuses on individuals who are either directly engaged in cryptocurrency-related activities or aware of its use as an economic tool.

For the purpose of this research, a multi-stage sampling technique is used. Firstly, both stratified and cluster sampling method are adopted to ensure that the sample reflects the diverse characteristics of the youth population in Kano State. The population was divided into strata based on the status of cryptocurrency adoption, and clusters based on geographical location of the respondents. At the second stage, respondents were then randomly sampled from each stratum and cluster to ensure representation across all groups. This approach enhances the reliability and generalizability of the findings. The strata considered include crypto users, non-users and passive awareness.

The initial sample size for this study was set at 200 respondents, determined using the Krejce and Morgan (1970) table for sample size determination, which provides statistically valid

sample sizes for different population sizes. Data collection was conducted through a combination of online surveys (Google Forms) and face-to-face administration. However, during data validation, some responses were found to be inconsistent or incomplete, particularly from non-crypto users who mistakenly answered questions meant for users. After rigorous data cleaning, 150 (75%) valid responses were retained. This final sample size was still sufficient for statistical analysis and representation of the study population.

3.2 Data and Instrument

For this study, primary data was used as the main source of information, as it allows the researcher to gather firsthand insights into cryptocurrency adoption and its influence on youth employment in Kano State. This type of data is obtained through methods such as surveys, interviews, observations, and experiments (Saunders et al, 2023). A structured questionnaire was employed to collect data directly from youths aged 18 to 35, who are actively involved in digital and cryptocurrency-related activities.

The questionnaire was divided into four sections: Section A contains the demographic information of the respondents; Section B asks questions about cryptocurrency adoption; while Section C seeks for information regarding impact of cryptocurrency on employment; lastly, Section D challenges and risks of cryptocurrency adoption including major obstacles and risks such as scams, government restrictions, and market volatility.

The questionnaire consisted of 24 items designed to gather quantitative data on the study's variables. The questions include a mix of closed-ended items and open-ended questions to allow respondents to express their perspectives. The questionnaire was administered both physically and digitally via Google Forms to maximize participation and ensure cost-effectiveness. The questionnaire was an appropriate instrument due to its ability to capture a wide range of data efficiently and reliably.

To establish the validity of the instrument, both Face Validity and Content Validity were carried out. The questions were validated through expert review in the Department of Economics, Bayero University Kano (BUK). He evaluated its clarity, relevance, and appropriateness in relation to the research objectives. Based on his feedback, necessary revisions were made to improve the overall quality of the instrument. A content validity checklist was developed to ensure that all key dimensions are adequately addressed in the instrument.

3.3 Method of Data Analysis

Data collected from the questionnaires were analyzed using both descriptive and inferential statistical methods. Binary logistic regression (BLR) was applied to evaluate the extent to which cryptocurrency adoption predicts youth employment outcomes. The adoption of BLR is justifiable as the dependent variable is dichotomous in nature. BLR is simple and efficient as it does follow logistic distribution function in the estimation of likelihood in the occurrence of an event. That saves the researcher the need for compliance with normal distribution function assumptions of the stochastic error term (Shehu, et al 2024).

The BLR model specification begins by the simple expression in equation 1:

$$Y_i = \beta X_i + u_i \quad (1)$$

Where Y_i is equal to one (1) if a respondent is employed; zero (0) otherwise. Meaning:

$$\begin{cases} 1, & respondent\ is\ employed \\ 0, & Otherwise \end{cases}$$

From equation 1, Y_i = 1 if X_i is greater than or equal to a critical value, say X^* and Y_i = 0 if X_i is less than a critical value, X^*. Thus, the equation represents a binary choice model involving the estimation of the probability of a youth being employed in Kano State, Nigeria (Y_i) given a set of predictors (X_i). Mathematically, this is represented as:

$$Prob\ (Y_i = 1) = F(\beta' X_i) \quad (2)$$
$$Prob\ (Y_i = 0) = 1 - F(\beta' X_i) \quad (3)$$

The function, F may take the form of a normal, logistic or probability function. The (BLR) uses a logistic distributive function to estimate, Probabilities as follows:

$$Prob\ (Y_i = 1) = \frac{e^{\beta' X}}{1 + e^{\beta' X}} \quad (4)$$

$$Prob\ (Y_i = 0) = 1\ - \frac{e^{\beta' X}}{1 + e^{\beta' X}} \quad (5)$$

Taking the natural log of equations (4) and (5) yields:

$$L_i = \ln\left(\frac{P_i}{1 - P_i}\right) = Z = \beta_1 + \beta_2 X_i + u_i \quad (6)$$

Where: L refers to the log likelihood of odds ratio.

Model Specification

$$Ln\left(\frac{F.emp_i}{1-F.emp_i}\right) = \beta_o + \beta_1 age_i + \beta_2 Gender + \beta_3 location_i + \beta_4 education_i + \beta_5 crypto.usage_i + \beta_6 crypto.income + u_i \quad (7)$$

Where: $Ln\left(\frac{F.emp_i}{1-F.emp_i}\right)$ stands for the log of odds of a youth in Kano Metropolis or otherwise. $\beta_o, \beta_1, \beta_2, \ldots \beta_5$ are the constant and coefficients of the explanatory variables, respectively.

3.4 Ethical Consideration

This study adheres to ethical research standards to ensure participants' rights and data integrity. Key ethical considerations include:

1. Informed Consent: Respondents were provided with a detailed explanation of the study's purpose and procedures, and their voluntary participation was sought.
2. Confidentiality: Participants' data was kept anonymous and used solely for academic purposes.
3. Non-maleficence: Care was taken to avoid any harm or discomfort to respondents during the data collection process.

4. Results and Discussion

This Section presents the analysis and discussion of the data collected from the survey respondents. The analysis is divided into descriptive and inferential sections. The descriptive

sections examines the demographic characteristics of respondents, cryptocurrency adoption trends, and employment status, using tables, pie charts, and bar charts for better visualization. The inferential analysis applies binary logistic regression to evaluate the relationship between cryptocurrency adoption and youth employment while testing the research hypotheses.

A total of 150 valid responses were obtained after data cleaning and validation. The dataset was analyzed using E-Views 10, and the results provide insights into how cryptocurrency adoption influences youth employment in Kano Metropolis.

4.1 Descriptive Analysis

This Subsection provides an overview of the dataset by summarizing key characteristics of the respondents.

Table 4.1: Demographic data of respondents

VARIABLES		FREQUENCY	PERCENT	TOTAL
Gender	Male	101	67.33	150
	Female	49	32.67	
Age	18-24	82	54.67	150
	25-30	53	35.33	
	31-35	15	15	
Location	Dala	9	6.00	150
	Fagge	9	6.00	
	Gwale	16	10.67	
	Municipal	29	19.33	
	Kumbotso	28	18.67	
	Nassarawa	36	24.00	
	Tarauni	9	6.00	
	Ungogo	14	9.33	

Source: Author's Survey, 2025

Table 4.1 presents the social demographic data of respondents, including gender, age, and geographical location. The results show that majority of the respondents were male (67.33%), while females accounted for 32.67%. This suggests that cryptocurrency adoption and employment-related activities in the study area may be more male-dominated.

In terms of age distribution, most respondents (54.67%) were within the 18-24 age group, followed by 25-30 years (35.33%) and 31-35 years (10%). This indicates that the study sample consists mainly of young adults, which aligns with the focus on youth employment.

Respondents were drawn from various local government areas in Kano Metropolis with the highest representation from Nassarawa (24%), Kano Municipal (19.33%), and Kumbotso (18.67%), while Dala, Fagge and Tarauni had the lowest (6% each).

Table 4.2: Socioeconomic demographic data of respondents

VARIABLES		FREQUENCY	PERCENT (%)
Highest educational level	Secondary Cert.	54	36
	Diploma/OND/NCE	13	8.67
	Bachelor's Degree	76	50.67
	Master's Degree	7	4.67

Employment Status	Employed	78	52
	Unemployed	72	48
Employment Type	Employed (formal job)	17	21.79
	Self-employed	50	64.10
	Freelancer	11	14.10

Source: Author's Survey, 2025.

Table 4.2 provides the economic demographic data of respondents, highlighting their highest educational qualification, employment status and type of employment. In terms of educational qualifications, the majority of respondents held a Bachelor's Degree (50.67%), followed by those with Secondary School Certificates (36%) and Diploma/OND/NCE (8.67%). Only 4.67% held a Master's Degree. This indicates a relatively well-educated sample, with most having at least a Bachelor's Degree.

Regarding employment status, 52% of the respondents were employed, while 48% were unemployed, which suggests that more than half of the respondents were involved in formal or informal employment.

Employment type further reveals that 64.1% of the employed respondents were self-employed, 21.79% held formal jobs, and 14.1% worked as freelancers. This distribution shows a high tendency for self-employment and freelancing within the sample, potentially reflecting the flexible nature of employment in Kano.

4.2.2 Cryptocurrency Adoption Trends

This section presents findings on cryptocurrency awareness, usage, and adoption among respondents. Understanding these trends helps to determine the level of engagement with cryptocurrency and its potential impact on youth employment. The analysis includes the proportion of respondents who are aware of cryptocurrency, those who actively use it, the frequency of usage, and the primary purposes for engaging in cryptocurrency activities. Additionally, the sources through which respondents learned about cryptocurrency are examined to highlight key channels of information dissemination.

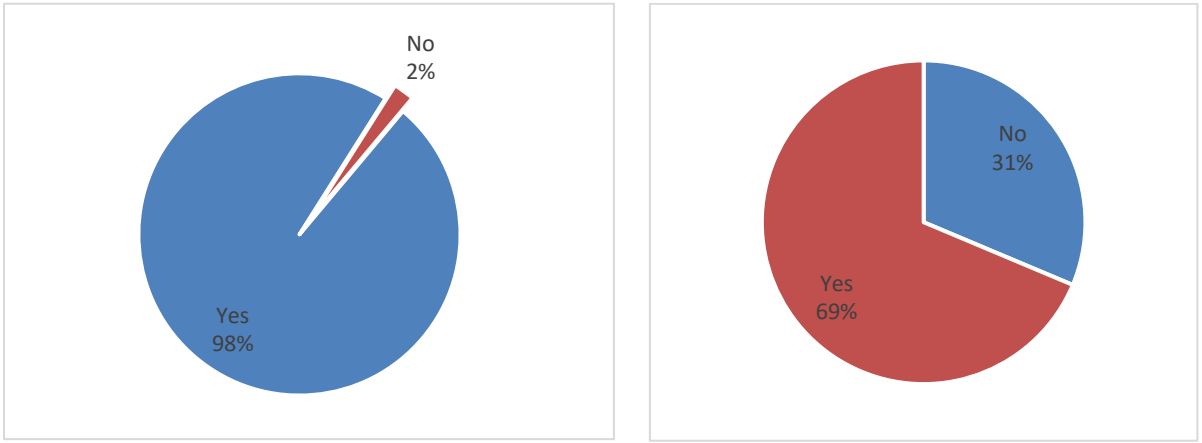

Figure 4.1 (A & B): Awareness and Usage of Cryptocurrenc

Source: Author's Survey, 2025.

Figure 4.1(A) illustrates that 98% of respondents are aware of cryptocurrency while only 2% are not. This indicates a widespread of knowledge of cryptocurrency among youths in Kano. While, Figure 4.1 (B) reveals that 69% of respondents actively use cryptocurrency, while 31% do not. This indicates a high level of adoption among the surveyed youth in Kano State, suggesting growing interest and engagement with digital currencies.

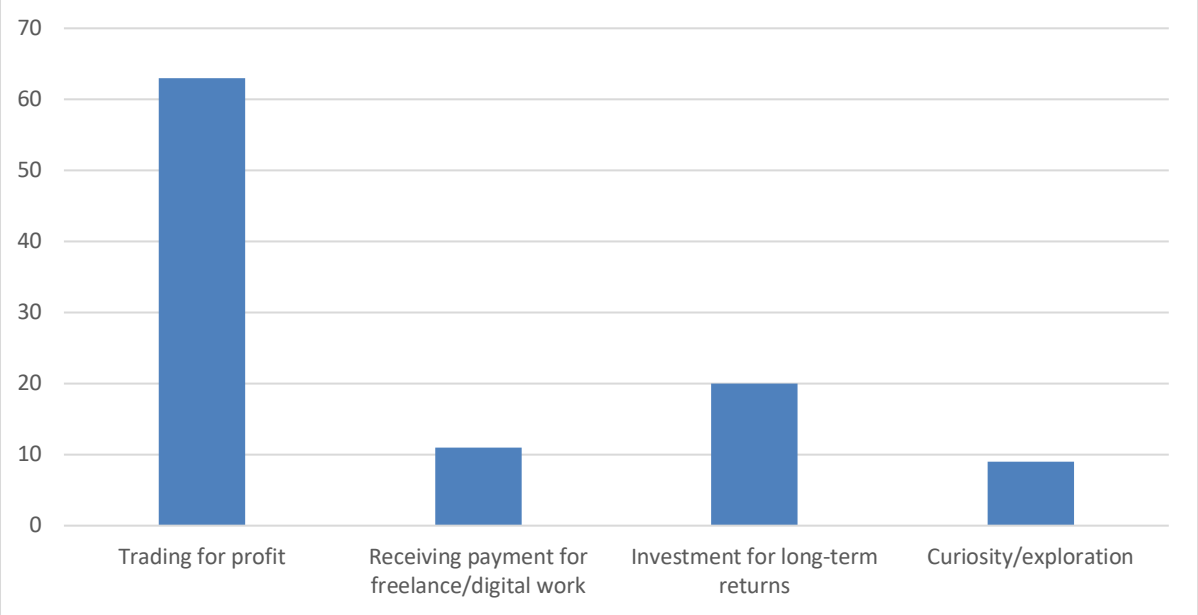

Figure 4.2: Purpose of Cryptocurrency Usage

Source: Author's Survey, 2025.

Figure 4.2 shows that most respondents use cryptocurrency for trading for profit, indicating its popularity as a speculative asset. Investment for long-term returns and freelance payments follow, while a smaller group engages out of curiosity/exploration. This suggests a mix of speculative and practical usage.

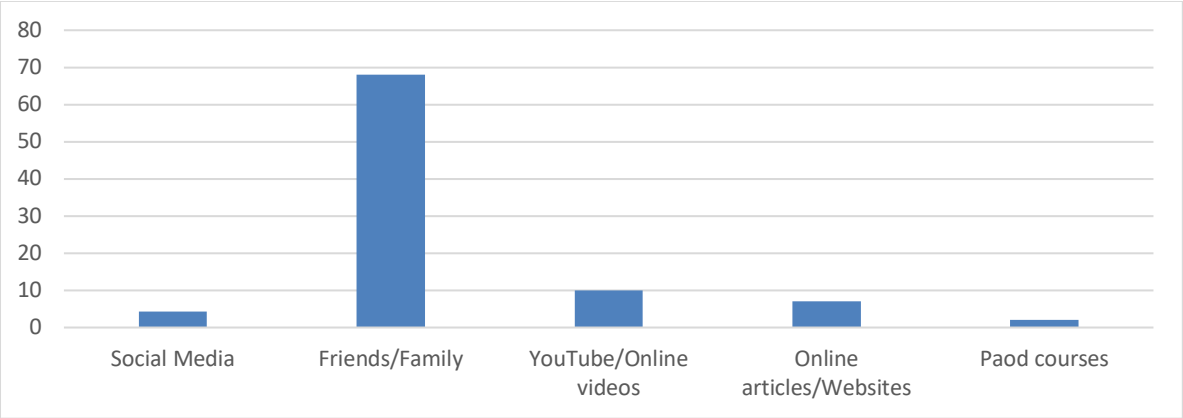

Figure 4.3: Sources of Cryptocurrency Knowledge

Source: Author's Survey, 2025.

Figure 4.3 reveals that friends and family are the primary sources of cryptocurrency knowledge among respondents. Other sources such as, YouTube, online articles, and social media, play a smaller role, while paid courses are the least common. This suggests that personal networks significantly influence cryptocurrency awareness.

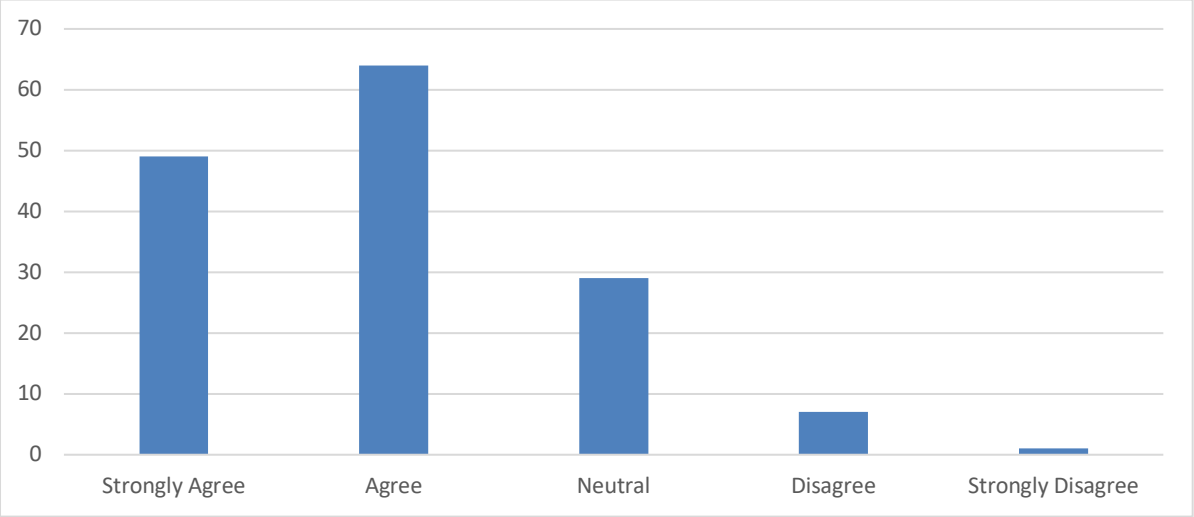

Figure 4.4: Respondents Perception of Cryptocurrency and Employment

Source: Author's Survey, 2025.

Figure 4.4 presents the responses to the question "Do you believe cryptocurrency can reduce youth unemployment in Nigeria?" The results show that majority of respondents strongly agree or agree that cryptocurrency has the potential to reduce unemployment in the country. A smaller percentage remains neutral, while only a few disagree or strongly disagree. This suggests a generally positive perception of cryptocurrency as a tool for addressing unemployment in Nigeria.

4.3 Binary Logistic Regression Result

This section presents the results of the binary logistic regression analysis, which examines the relationship between cryptocurrency adoption and youth employment in Kano Metropolis. The analysis aims to determine whether cryptocurrency usage significantly influences employment status in the study area.

Table 4.3: Binary Logistic Regression Results

Variable	Coefficient	Prob	Marginal Effect
C	0.6169	0.4541	0.1529
AGE 25-30	0.9909*	0.0652	0.0605
AGE 31-35	2.1786**	0.0482	0.1044
FEMALE	-2.3915***	0.0002	-0.00047
EDU_SECONDARY	-0.5861	0.2481	-0.1169
EDU_DIPLOMA	1.6996*	0.0610	0.0969
DALA	0.4212	0.6962	0.0088
FAGGE	0.3707	0.7559	0.0683
GWALE	0.3743	0.6496	0.0849
KANO MUNCIPAL	0.5154	0.4419	0.1273
KUMBOTSO	0.1194	0.8574	0.0145
TARAUNI	-1.1960	0.1753	-0.1794

UNGOGO	-0.5997	0.4512	-0.1482
CRYPTO USAGE	-1.7016*	0.0533	-0.0873
INCOME RECEIVED FROM CRYPTO	1.5702**	0.0395	0.0616

Dependent Variable: Youth Employment.

McFadden R-squared	0.315730
LR statistic	65.57850
Prob.(LR statistic)	0.000000
Number of Observations	150

Source: Author's Computation from Survey Data (2025), Using E-Views 10

The model achieved convergence after 4 iterations and was estimated using Maximum Likelihood (ML) method. The McFadden R2=0.3157, indicating that the independent variables explain approximately 31.57% of the variation in youth employment, all things being equal. The Likelihood Ratio (LR) statistic=65.58 (p=0.0000), which confirms the overall significance of the model.

From the results, being female has negative effect on the probability of employment as indicated by the coefficient -2.391524. Though the marginal effect is quite negligent at -0.000478 (p = 0.0002), meaning that females have a 0.0478% lower probability of being employed compared to males, holding other factors constant. This result is statistically significant, suggesting that gender plays a significant though marginal role in employment probability, with females being less likely to be employed compared to their male counterparts in the study area.

Age appears to have a positive effect on employment status. Specifically, individuals in the 31-35 age-group are significantly more likely to be employed compared to the reference category (18-24), with a marginal effect of 0.1044 (p = 0.0472). This means that individuals in the 31-35 age range have a 10.44% higher probability of being employed compared to those in the reference category, holding other factors constant. Similarly, individuals aged 25-30 also show a positive relationship with employment, with a marginal effect of 0.0605 (p = 0.0716). This suggests that individuals in the 25-30 age group have a 6.05% higher probability of being employed compared to the reference category, although this effect is only marginally significant. This is perhaps because most of those within the reference age of 18-24 are still in school thus having lower chances of being employed.

For educational attainment, having a diploma is positively associated with employment compared to secondary school leaving certificate, with a marginal effect of 0.0969 (p = 0.0610). This means that individuals with a diploma are more likely to be employed than those with a Bachelor's degree, holding other factors constant. Other categories of educational attainment do not exhibit significant influence.

Geographical Location of the respondents (Dala, Fagge, Gwale, Kano Municipal, Kumbotso, Tarauni, Ungogo) does not show any statistically significant effects on employment compared to the reference category (Nassarawa), with p-values ranging from 0.4419 to 0.8574.

More importantly, the use of cryptocurrency is associated with a negative effect on employment, with a marginal effect of -0.0873 (p = 0.0533). This means that individuals who use cryptocurrency are 8.73% less likely to be employed to those who do not use cryptocurrency, holding other factors constant. Though this effect is only marginally

significant at 10%. On the other hand, receiving income from cryptocurrency has a positive effect on employment, with a marginal effect of 0.0616 (p = 0.0395). This suggests that for each unit increase in income received from cryptocurrency, the probability of being employed increases by approximately 6.16%, holding other factors constant. This effect is statistically significant, indicating that income from crypto plays a role in enhancing employment probability.

5.0 Conclusion and Recommendations

This Section presents the conclusion of the research paper as well as policy recommendations emanated from the findings of the study.

5.1 Conclusion

This study explores the impact of cryptocurrency adoption and income on youth employment in Kano Metropolis using primary data collected through survey in the study area. From the findings of the study it is concluded that while cryptocurrency adoption alone may not guarantee employment for youth, income generated from cryptocurrency does play a significant role in increasing the likelihood of employment. The findings show that although the direct use of cryptocurrency does not create jobs, the income derived from it has a positive impact on youth employment. However, many respondents were aware of cryptocurrency, actual adoption remained relatively low. For those who did adopt it, earnings from cryptocurrency seemed to provide an alternative income stream, reducing reliance on formal employment. These findings in a way coincide with the findings of both Olayemi and Okeke (2021) in Lagos State as well as Adekunle and Olanrewaju (2022) in Kano State, though with slight variations. Additionally, factors such as gender, age, and education significantly affect employment status of the youth. Specifically, males, older youth, and those with certain educational qualifications are more likely to secure jobs than otherwise. On the other hand, geographic location within the urban areas of Kano does not have a significant effect on employment status.

Overall, the study highlights the complex relationship between various factors and youth employment, emphasizing the need for further research to better understand the role of digital income sources and traditional socio-economic factors play in addressing youth employment challenges.

5.2 Recommendations

Based on the findings of this study, the following recommendations are made:

1. Youth should be educated on digital finance, blockchain technology, and risk management. Schools, financial institutions and government agencies can organize training programmes to equip young people with the knowledge needed to navigate the crypto space responsibly.
2. Regulatory uncertainty remains a key concern for potential adopters. Policymakers should consider clear, balanced regulations that promote innovation while ensuring consumer protection against fraud, cyber threats, and financial risks.
3. While cryptocurrency provides alternative income opportunities, overreliance on speculative trading can be risky. Young people should be encouraged to explore more stable crypto-related opportunities such as freelancing, blockchain development and decentralized finance (DeFi) applications.
4. To support job creation, governments and private sector players should foster an enabling environment for crypto-based entrepreneurship. Startups and digital

businesses leveraging blockchain technology in payments, remittances, and online services should be supported through funding and policy incentives.

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