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The Role of Cryptocurrency in Under-Developing Countries: In Case of Pakistan

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Abstract: In this paper, we explore the role of Cryptocurrency in under-developing countries like Pakistan etc. & elaborate on the legal concept of cryptography and then, we explore the possibilities of establishing and delegating tasks to the State Bank of Pakistan to regulate bitcoin payments made via peer-to-peer electronic payment in Pakistan (Create own Pk Exchange). In paper, we explain and convey the basic concepts and functions of blockchain and cryptocurrency and their uses. Further, we explain the short history of bitcoin. Also compare cryptocurrency with the prospective of traditional banking system or paper currency. Moreover, briefly explain the current situation of cryptocurrency in Pakistan according to the arguments of Government, FIA, FBR, Central Bank and Waqar Zaka (citizen of Pakistan). We also describe the perspective of Islam on cryptocurrency on the facts of halal and haram cryptocurrency. Furthermore, also describe the first Mining plant of Pakistan, future direction of cryptocurrency and cryptocurrency in some under-developing countries. The most crucial thing in our paper is that we conducted a survey to know the potential and future of cryptocurrency in Pakistan. This survey will help to understanding the knowledge related to Cryptocurrency in Pakistan and in future, this study will fruitful when government wants to legalize Cryptocurrency in Pakistan.

Keywords: Cryptocurrency, technology, Pakistan.

1. Introduction and Preliminaries

Cryptocurrency is a combination of two words the first one is Crypt and the second word is currency (Money). The crypt word meaning refers to digital information that is encrypted and distributed via a network utilizing blockchain technology. The meaning of second world is currency refer to any type of currency used by digital environment and comprises the idea of e-money, like as online credit card payments, bank balances or online game money, and cyber money [1]. The earliest cryptocurrency in the world is bitcoin. A guy using the identity Satoshi Nakamoto issued a study with entitle "Bitcoin: A Peer-to-Peer Electronic Cash System" in 2008 [2]. Bitcoin is first cryptocurrency which is based on decentralized mechanism, and in 2009 it is released as open-source software. Any kind of money that exists electronically, that generally has no regulating authority or central issuing but instead uses a decentralized system to monitor the issue of new units and record transactions, and that relies on encryption mechanism to prevent fraudulent and fake transactions. Users can exchange digital assets without third party involvement when they use a cryptocurrency [3]. Throughout the last several years, cryptocurrency has grown in worth and awareness. In fact, there are around 4000 cryptocurrencies in existence as of April 2021 & now According to the Coin Gecko Website in Nov 2021 more than 10000 cryptocurrencies are listed although many of these cryptocurrencies have a very small market cap and little trading volume. The technological revolutionary ecosystem nowadays, cryptocurrency is alarming and has come to be a trend for investment in whole world. The cryptocurrency or digital currency is focusing to integrate the typical financial system and may satisfy significantly divergent criteria and standards [3]. Cryptocurrencies have been established in the world decade ago, and while many people did not trust them at first, that attitude has evolved with time. People were used to using conventional physical money until they felt uncomfortable. There was a genuine rejection of these cryptocurrencies, but

this was attitude has slowly changed. A miner performs the process of confirming these transactions, which is known as 'Bitcoin mining' [4].The development of various cryptocurrencies was always linked to peer-to-peer electronic payment. Peer-to-peer electronic payments are a type of payment system that allows payments to be transmitted online directly from the buyer to the seller in the absence of financial institution, such as a central bank. In such payment, there would be no authority engaged. Due to its high speed transferability, low cost, decentralized mechanism of tracing network that ensures stable privacy transactions and, cryptocurrency is rising in popularity.

Cryptocurrencies have outperformed other virtual currencies in terms of growth and acceptance, and they have great potential. The value of BTC is constantly increasing and is accessible online in 24/7 days a week. BTC delivers financial services in locations where financial infrastructure is lacking. Because Salvador country is the first, which adopt the official digital currency (Bitcoin), able to see how cryptocurrencies, like Bitcoin, might change primitive financial framework in the near future [5]. Some government agencies are still discussing whether to support and regulate cryptocurrencies, fearing that the adoption of this technology could risk in the future for financial system and lead to bad results, like terrorist funding [3]. Libra, which was developed by Facebook and is now being used as a new digital payment system, is good and up to date [5].

Within a decade, blockchain technology has spread to every country around the world. People with median incomes are currently attempting to save or invest their money in cryptocurrencies. The key potential of blockchain is transparency, security, privacy, cross-border payments, cheap cost, reducing mistakes, and no central hub to control. Cryptocurrencies, such as Bitcoin and Ethereum, are secure means of trade that rely on encryption. Money is a medium of exchange, which implies that it is used in our daily life and business. However, cryptocurrencies are often not utilized in the trade of goods and services like as food, clothes, and transportation [6]. The transactions of cryptocurrency have no limits and working quickly anywhere over the world. There is no specific authority for impose the administering restorative justice and law. Because in virtual currency there is not any intermediary to control it and it employ beyond the bounds of the law in a grey zone. , For above reason it is critical now a days to inaugurate policies that will support the enlargement of this technology while also making it in limit for illegal use [8].

2. Literature Review

2.1. Money

The medium used for exchange is money from past 3,000 years, following the usage of the barter system. From precious stones to metal coins and paper currency, the evolution of money has paralleled the growth of cultures and technological innovation [9].

2.2. Paper Money

Paper Money is any object or verifiable record that is broadly implement in many countries or socio-monetary environments as a charge for products and services and repayment of money owed, which includes taxes. Paper Money can be defined as any item or verifiable record that performs these functions. The medium for exchange is money that may be utilized as a legal form of payment involving products or as services [10]. We'll just have different options for using plastic, paper, cash, and checks." El Salvador's central bank president also announced on national television that Bitcoin will not be used to replace the nation's currency. The dollar is rather stable, especially in comparison to Bitcoin's explosive price movements.

2.3. Traditional Banking System

In the banking system if you want to an account in the bank, for this you must visit the physical location. Although few traditional banks allow you to open account online, you may still need to go to the bank for verify your identity or document submission. To withdrawing cash, ATMs is involved in tradition banking system. A fee detection mechanism is implemented on withdrawing cash through ATM's if anyone use different bank's ATMs. Many traditional banks charge fee for business bank accounts. This fee is mostly higher than that charged by online banking system, and there may be implement extra fees for certain activities.

2.4. Blockchain

Blockchain is simply a decentralized database including public ledger of all digital events or transactions that have been implemented and shared among different participating parties on peer-to-peer mechanism. In public ledger, every transaction is confirm by the consensus algorithms, which is based on a majority voting of participants involved in this system. Once information entered, it can't be modified. Bitcoin is the most famous instance that is intimately connected to blockchain technology. It has been the most contented since it delegates a multibillion-dollar global market of bitcoin transactions free of governmental oversight. In its result, It has to deal with different regulatory demanding situations affecting national governments and economic institutions [11]. In Figure 1, briefly explain the history of blockchain.

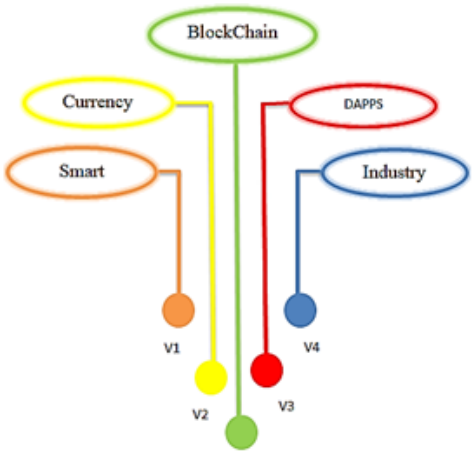

Figure 1. History and Evaluation of Blockchain

Bitcoin is the maximum well-known instance that is in detail linked to blockchain technology primary assumption is that the blockchain create a system of distributed mechanism of consensus algorithm in digital world [12]. In [13], the Author said the prevailing supply chain architecture has sure drawbacks, gaps of communication between supply chain actors and information are not enough about the origin of the product and travel history. The utilization of technology promotes relationships and communication among different stakeholders and farmers. The Blockchain technology improves supply chain traceability and transparency, as well as transaction record traceability and overall supply chain security. we provide a blockchain-based completely traceability architecture that maintains the system's integrity and transparency .The majority problems of the old supply chain were removed by this new model. They presented a decentralized supply chain concept, as well as a smart contract, to coordinate all transactions in the supply chain.

In [14], Due to the country's poverty, the record of Pakistan's property is especially vulnerable to corruption and falsification. The motive of decentralized research studies has been to enhance system reliability. In order to fix the weakness of centralized systems, currently in development, a blockchain-based decentralized system is used. We desire to establish a system of proof-of-concept or framework for future usage of the registration model of land records using this research. Our proposed conceptual framework will benefit Pakistan's land registration agency. We present a conceptual framework outlining the required components for the government of Pakistan to construct a land record registration system based on decentralized mechanism. There are various platforms are being used to build immutable, decentralized, efficient, transparent, and secure blockchain-based land monitoring and registration systems. Because it is a public blockchain platform, anybody may join in the blockchain ecosystem.

3. Role of Blockchain in Cryptocurrency

3.1. Block

A user interface that traces all necessary information in blockchain and displays it on an understandable form, is a beneficial tool for users. It proceeds as a "search engine" for a selected blockchain, authorize users to investigate the situation of the network, or allowing users to verify transactions [13]. In Figure 2, All

transaction details are published and recorded publicly, allowing associated metadata to be retrieve through block explorer. The transection complication can be confirmed by traders, provided data can be validate and check by authorities, and movement of money can track by law enforcement.

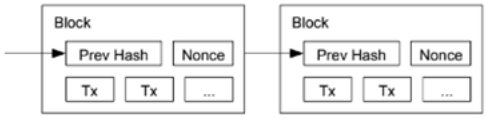

Figure 2. Block Explorer

3.2. Running a Node

Blockchain is a public, decentralized database. And it is working on a network of nodes, and these are executed in software. Because cryptocurrencies blockchain technologies have no permissions and the code for most popular nodes is publicly available, anybody may run a node and join the network.

3.3. Hash

The users on networks spread across the globe and unconnected in any way, whether by personal or professional relationships, receives the most recent transaction data directly. They put the information through a cryptographic algorithm, which generates a "hash," a string of numbers and letters that serves to verify the information's validity but does not reveal any information about the data itself [14]. Hash(00000000839a8e6886ab5951d76f411475428afc90947ee320161bbf18eb6048) this is the First hash code of BTC you can easily find and confirm it's difficult to modify with. If any one word or number changes you get a different hash code. By using hash calculator, if anyone initialize the declaration of freedom, the result will get like this (00000000839a8e6886ab5951d76f411475428afc90947ee320161bbf18eb6048). The network of bitcoin provides the facility to examine the blocks validity due to this technology. Going over the full ledger to verify the pool of transection, user hasn't done anything unusual takes a long time. Instead, the previous block's hash is repeated in the next block. The hash will change with time if previous block details are modified. In reality, if each update travels almost 20,000 blocks come back to the chain, a new series of hashes will be triggered by that block hash, allowing network to released [15].

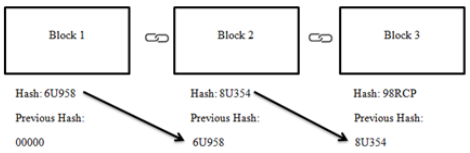

Figure 3. Hash Blocks

4. Cryptocurrency or Bitcoin

Cryptocurrency is also known as Crypto or Bitcoin. It works as a medium of exchange with the help of a computer network there is no central authority like a bank or Government. The cryptocurrencies are pure digital assets in binging which was included by asset managers. In Korea, in general referred to as "virtual currency", but virtual currency and cryptocurrency have different conceptual model [12].

Figure 4. History Graph of Bitcoin (Coin Market Cap)

After Bitcoin, Ethereum is the second most valuable form of cryptocurrency. It first appeared in 2015, following Vitalik Buterin's idea. It uses blockchain technology to create applications and smart contracts, and it also enables developers to use its platform to create their own currency [16].

4.1. Short History of Bitcoin

"Satoshi Nakamoto" submitted a paper in 2008 describing the use of blockchain technology to build digital money called bitcoin. In February 2011 it rose to $1.06 before coming back down to 87 cents. Because of limited capacity, exchanges BitInstant and Mt. Gox experienced processing delays in April 2013, causing the bitcoin price to decrease from $266 to $76 before recovering to $160 within six hours. On April 10, bitcoin reached a high of $259 and then crashed by 83 percent to $45 during the next three days. Prices started at $770 in 2014 and dropped to $314 at the end of the year. In Figure 4, Bitcoin prices increased gradually year on year, rising from $434 in January 2016 to $998 in January 2017. A week after the upgrade was enabled in August, Bitcoin was trading at over $2700, and on December 17, 2017, Bitcoin had achieved an incredible all-time high of just under $20,000. PayPal stated in November 2020 that US citizens would be able to buy, keep, and sell bitcoin. Tesla announcement of a $1.5 billion bitcoin purchase and planned to accept bitcoin as payment for vehicles on February 8, 2021, they increased the bitcoin price to $44,141. After 49 days of accepting the digital currency, On May 12, 2021, Tesla announced that it will no longer accept Bitcoin owing to worries that "mining" the cryptocurrency contributed to the consumption of fossil fuels and climate change. The Canton of Zug, Switzerland, stated in September 2020 that it will begin accepting bitcoin tax payments in February 2021. The Legislative Assembly of El Salvador approved in June 2021 to make Bitcoin legal tender in the country. Therefore, after inauguration of Bitcoin futures, we can examine how efficiency of economic changed (improved) by implemented cryptocurrency market. that it is say, it enables us to determine which cryptocurrencies offer the best returns for investors based on various risk factors [17]. Bitcoin Hit All-time High is 69000 USD in 2021. In the year 2022, According to Coin gecko, 1300 coins listed and innumerable other applications of blockchain technology are readily available. Cryptocurrencies depends on a peer-to-peer method to get rid of the "middleman."

4.2. Cryptocurrencies Work

In Figure 5, Cryptocurrency works in block Chain e.g., user A wants to transaction with user B and their transaction through the block. A collection of connected blocks that store a record of every transaction done in its network is also known as mining. The transaction is confirmed through Signature. Then block is appended into the chain. The transaction is Successful from A to B. Every owner transfers the coin to the next owner by signing an encrypted hash of the prior transaction and by adding the public key at the bottom on the currency. The ownership chain can be confirmed by a person who receives the coin by verifying the signatures [18].

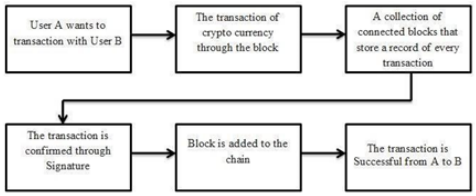

Figure 5. Workflow

5. Basic Concept of Crypto

5.1. Digital

The definition of Digital currency's is the process of currency store and transferred electronically on digital devices like mobile devices, laptops, and personal computers. Also, it is utilized by World wide web [1]. Cryptocurrency can only be found on a computer. Not in the form of cash, or other physical objects.

5.2. Peer-to-Peer

One of the most significant advantages of cryptocurrencies is that they do not require the involvement of financial institution middlemen [19]. So users engage directly without the involvement of third parties such as banks, the Government, or PayPal.

5.3. Decentralized

In Crypto, Decentralized means refer to the transfer of control to an individual person or Group to the distributed network.

- There is no central authority in Bitcoin.
- The ledger is open to the public, and anybody with a computer may access it.
- Anyone can become a miner.
- Anyone can transmit a transaction to the network without requiring permission; the network just verifies that the transaction is valid [15].

5.4. Encrypted

All users will be issued a unique code that will secure their personal information and make it extremely hard for other users to access it; this is known as cryptography.

5.5. Cryptography

Cryptography is a method of securing information and communications by using codes to ensure that only the people who need the information can understand and process it. As a result, unwanted access to information is prevented. The word "crypt" refers to "hidden," while the suffix graph refers to "writing." Constantly improving security and privacy, smart contracts, scalability, studying new threats, key management, and gradually incorporating new cryptographic features into existing blockchain are just a few of the major challenges Because cryptography is such a broad topic, there is always the chance of discovering new cryptographic strategies to improve blockchain solutions. [20].

5.6. Global

In general, each country has its own currency, known as fiat. Sending currencies in other nations or to the whole world is a difficult. Cryptocurrency is a solution to this issue. Access to Cryptocurrency is quick and effortlessly, allowing Cryptocurrency be utilized in every country around the globe easily, since Cryptocurrency is digital currency that is able to be used in any country with no boundaries [21].

5.7. Use of Cryptocurrency

Cryptocurrencies can also be used to purchase goods. Bitcoin is now accepted by a large number of businesses. They are now used to pay for flights, computer parts, Apps, jewelry, and even college degrees.

Table 1. Difference of cryptocurrency and digital currency

Cryptocurrency	Digital Currency
Cryptocurrency is fully decentralized.	Digital Currency is fully Centralized
It is highly encrypted.	It is not encrypted.
Transaction Directories are visual to all.	Transaction Directories are kept Secret.
It is not surrounded by legal frameworks.	It is surrounded by legal frameworks.

Apple has authorized 10 different Cryptocurrencies for payment of their apps. Cryptocurrency not only acts as a medium of exchange but also helps investors to invest [2].

5.8. Cryptocurrency is Safe

Blockchain technology is typically used to create cryptocurrencies. Blockchain specifies how a transaction is divided into "blocks" and dates are assigned to them. It's a fairly complicated, technical procedure, but the end result is a digital record of bitcoin transactions that hackers find difficult to tamper with. Cryptocurrency can be store on third party software, which is called exchange. The exchange also provides the wallet facility. In this case, peoples must aware the trusting and securing mechanism implemented in exchange for its wallets. Where they submit funds. They usually keep their wallets in third-party custody, which makes their possessions vulnerable to security breaches, hacks, thefts [18]. If the exchange is hacked, you may have almost no alternative. Transactions or Withdraw an amount are also required by a two-factor authentication procedure. So-called privacy-preserving cryptocurrencies or 'privacy coins' are an example of a current development trend that conforms to the goal of replacing trust with cryptographic evidence present in archetypal cryptocurrencies [20]. For maintain the privacy a bitcoin protocol fork having leverages Zero-Knowledge-Proofs (ZKPS). The two best privacy coins names are Zcash (ZEC) and Monero (XMR) having the above use case.

5.9. Difference of Cryptocurrency and Digital Currency

When we use our debit card or digital wallet to pay for goods or services, we are utilizing digital money. When we take money from an ATM, the digital currency is turned into real cash. You can also see the difference between crypto and digital currency in Table 1.

6. Basic Function of Cryptocurrency

6.1. Exchange

A cryptocurrency exchange is a service where you may purchase and sell cryptocurrency. You may use exchanges to convert one crypto to another, such as Bitcoin to Lite coin or BNB, or to buy crypto using normal cash, such as the US dollar and Rs. The exchanges show the current market value of the cryptocurrencies they provide. You can also use a cryptocurrency exchange to transfer your cryptocurrency into US dollars or other currencies. That can keep as cash in your wallet or withdraw to your regular bank account. Some popular exchanges are Binance, Bittrex, Okex, etc.

6.2. Trust Wallets

A cryptographic money wallet is a secure computerized wallet that is used to store, transfer, and receive advanced money such as Bitcoin and other Altcoins [22]. Almost all the exchanges have its wallet. It is used to store cryptocurrency. Some of famous wallets are, Coinbase, Trust Wallet, Meta mask, and Trezor [3].

6.3. Mining

It is the process of validating the transections of cryptocurrency digitally on blockchain network and put it on the digital ledger. For this a hash puzzles are solving which is based on complex cryptographic, for verification of block of transactions. After that it is updated on blockchain ledger.

Table 2. Differentiate Between Cryptocurrency & Traditional Banking System

Traditional Banking System	Cryptocurrency
If you want to open an account in the bank you must need to go physical location to verify your identity	If you want to open an account in a Crypto blockchain based wallet you just need a computer or mobile phone connected to the internet or some different wallet that wants a government issue ID card.
In Banking System, you want to send payment to Another country for Business purposes,	Crypto aims to fix the issues that fiat currency has in areas like foreign exchange
In Pakistan Banks are only available at specific times or days, for example, Banks are only open five days a week from 7 am to 5 pm and two days off.	Cryptocurrencies depend on automated mechanisms that don't require a lot of human engagement. As a result, they are available at all times of the day, including weekends and holidays.
Banking System is fully Centralized	Cryptocurrency is fully decentralized.
Hackers are increasing day by day and many banks have seen millions of attempts to attack each year resulting in minor losses. but hackers are constantly getting more sophisticated, making banks even more vulnerable to massive attacks	Cryptocurrency are based on blockchain technology, which is highly secured and difficult to hack.

7. Cryptocurrency over Traditional Banking

Due to its high-speed transferability, low cost, and decentralized tracing of network that enables secure transactions, cryptocurrencies have become a popular method of exchange all around the world. You can also see the difference between traditional banking system and cryptocurrency in Table 2. Following are the uses of crypto over traditional banking:

1. It is possible to make transactions anytime of the night or day, and there are no restrictions on withdrawals and purchases.
2. Cryptocurrency transactions are very useful for international transfers.
3. Cryptocurrencies promise to make the funds directly transfer easier between two different parties and eliminate the trusted intermediate between them. Like credit card company and banks. Such decentralized transactions are protected by cryptographic algorithms in which public and private keys are used, and other consensus algorithms are such as proof of work (POW) or proof of stake (POS) [21].
4. It is simple to utilize. The process of issuance and transactions are entirely electronic. The transaction security is ensured with the use of cryptographic algorithms as well as the social credit costs are extremely low. [22].
5. The management and upkeep of any currency is one of the major factors in the growth of a currency. Developers/miners store the bitcoin transaction on computers and pay a fee for each transaction as an incentive for their work. Since miners are paid for their work to keep the correct records of transactions and keep them current, safeguarding the integrity of the cryptocurrency and ensuring that data is not centralized.

7.1. Current Status of Cryptocurrencies in Pakistan

Cryptocurrency also gain popularity in Pakistan. Pakistan has the third-highest crypto adoption rate in the world, according to the Chainalysis Global Crypto Adoption Index. Since 2009, significant advances in

payment methods, such as Easy paisa, have developed. The growth and popularity of these innovations indicate that there is a lot of opportunity for growth of cryptocurrency use in Pakistan [20]. Pakistan introduced their very first Cryptocurrency Pak coin in 2015. The popularity and growth of these systems indicate that cryptocurrencies are able to gain popularity in the country. In November of 2017 the IMF chief recommended Pakistan not to ignore these virtual currencies due to consumer preferences. A circular released in April 2018 clarifies that the government doesn't advocate the trading of these currencies. Instead, any transactions involving these assets should be disclosed [15]. The FIA and FBR will pursue legal action to Pak cryptocurrency, Bitcoin, or any other Cryptocurrency. They charge these with tax evasion as well as money laundering. Waqar Zaka is the first Pakistani who filed a case in the Sindh high court about legalizing cryptocurrency in Pakistan without any lawyer. He achieved success. But nowadays Pak Government and central bank again decided to ban Cryptocurrency. He said Pakistan has a small volume of dollars for Pakistan's economy people lose many dollars in crypto. The next date of the Crypto case is 12th April 2022 whether to ban or regulate it. Then Waqar Zaka claimed in a tweet that there are minds who claim that the 20 billion dollars have been wiped out of Pakistan due to Crypto but that is not true. In the absence of Hundi who knows why anyone would wish to be under FATF's watch? By the way, even though Facebook and YouTube advertisements are pulling additional dollars out of Pakistan however, the majority of them don't know about crypto. On 12 Jan 2022, Pakistan media says according to Pakistan central bank many people lose money in trading apps like Binance, etc. On 17 Jan 2022, Waqar Zaka said in a Tweet, no fraud is done through Binance or any Crypto Platform.11 apps like HFC Fox has no link with blockchain wallets. Instead of arresting brokers who took money from innocent Pakistanis, authorities are going in the wrong direction. In the end, our authorities will look foolish. The majority still have no idea about Blockchain.

7.2. Islamic Perspective (Halal / Haram Crypto)

Money in Islam must meet certain criteria before it may be used. Each government puts specific restrictions on money circulating in its country that are matched with international standards in order for money to be recognized as a means of value and goods transaction and exchange. Bitcoin, like other digital and electronic money such as Ethereum, Ripple, Litecoin, IOTA, and others, is crypto money (cryptocurrency) with no physical form [15]. Imam Ahmad bin Hanbal said "Money is illegal unless it is done by the official printing with the permission of the sultan. People would commit a serious crime if they were allowed to print it" [14].

According to Imam Nawawi, making one's own money is makhruh (reprehensible), even if it is pure gold because it is the government's right [16]. Al-Quran Verses of the Koran that represent economic activities or activities in general, including cryptocurrencies can be found in the Quran in verse 29 of Surah an-Nisa [21]. O you who are a believer! Don't eat your possessions with others unjustly unless it could be exchanged between you by mutual agreement. Also, don't commit suicide (nor murder each other). The cryptostopia.com is a website based on halal or haram Crypto they research the coin and scan projects using a project website, whitepaper, and other data analytics based on the analytical study [22]. According to cryptostopia main reason for haram, Crypto is

- Lending /Borrowing (Riba)
- Derivatives
- Options
- Betting(Prediction Market)
- Shirk
- Drug/Alchohol
- Gambling
- Adult
- Yield Farming/Riba

In Figure reff6, If you search Coin in cryptostopia the coin shown in the list of database that the means this coin is haram(Reason also shown in the reason Column) if they don't show in the list that means its halal.

Figure 6. Cryptostopia [31]

The challenges for the development of sharia fintech in the country are:

- There are very few Sharia FinTechs registered with the OJK, which might be owing to a lack of money and understanding of sharia business requirements [18].
- The rise of illegal fintech, as well as competition with conventional fintech, is growing rapidly [47].
- Infrastructure, lack of public awareness and knowledge about Islamic finance, and lack of qualified human resources support the growth of Islamic Fintech [18].

7.3. Mining plants in Pakistan

The Technology Movement of Pakistan CEO Waqar Zaka set up the First Pakistani Crypto Mining farm using Hydropower after Taking Approval from the KPK Government. Waqar Zaka has been asking the government to legalize crypto mining in the country for the past three years. The KP government created Pakistan's first-ever Crypto Advisory Committee in response to growing public awareness of cryptocurrency. In this context, Zia Ullah Bangash, the Chief Minister's Advisor on Science, Technology, and Information Technology, pressured the province administration to take the required steps to profit from the global crypto market.

This industry sector has the responsibility of authenticating and validating transactions made through the blockchain and keeping global records of cryptocurrency transactions [3]. Two incentive mechanisms encourage the miners to donate in the process of generating blockchain transactions. The first one is the fact that any miner who has solved the cryptographic key successfully gets paid using freshly-minted Bitcoin that is the only method to generate additional Bitcoin. Another way in which mining companies are rewarded to contribute their computational capacity to blockchains is via transaction fees. They are typically sourced from the counterparties to the transaction and are is charged by Satoshi (1/100,000,000 of the equivalent of Bitcoin) every bit of data in the transaction. The counterparties of transactions can choose which amount they will pay. Miners usually include transactions with largest fees first. This can result in lengthy waiting times for transactions that have smaller fees [18].

7.4. Disadvantages

- Anyone who has a computer with an Internet connection is able to mine them. However, mining the most popular cryptocurrency requires a substantial amount of energy, usually more than the entire countries are spending. Mining is a monopoly for large corporations that earn earnings in the hundreds of billions of dollars due to the rising energy costs and the unpredictable nature of the business. Based on MIT research 10% of the mining capacity is comprised of 10 percent of the miners [23].
- Although cryptocurrency blockchains are highly secure, other cryptocurrency repository sites, like wallets and exchanges, could be compromised. A lot of cryptocurrency wallets and exchanges were hacked in the time, with millions of dollars' worth of "coins" stolen in some instances.
- The volatility caused by bitcoin is terrifying not just for the crypto market but also for new investors. The less fortunate in terms of market trend and volatility might be severely hurt due to a lack of expertise and poor-risk tolerance.
- The volatility of prices affects the cryptocurrency which are traded on the public markets. The value of Bitcoin has fluctuated significantly and reached as high as $17,738 in December 2017 , before decreasing to $7,575 during the following months. [24].
- Because cryptocurrency transactions are so private and secure, it's difficult for the authorities to track down or monitor any individual based on their wallet address. Bitcoin has already been used as a

means of exchanging money in a variety of criminal transactions, including the purchase of drugs on the dark web. Some people utilize cryptocurrency to mask the origins of their illegally obtained money by converting it through a trustworthy intermediary.

- To guarantee that every transaction is genuine, users must go through a consensus process. This implies that the consensus process takes more work to construct each node. Furthermore, all nodes must interact with one another to confirm that the transaction is genuine. The use of concession algorithms as proof of work, which necessitates greater processing power, in order to raise overall power consumption [14].
- Certain cryptocurrency can only be purchased and sold in a small amount of fiat currencies. This forces the user to first convert these currencies into one of the major currencies, such as Bitcoin or Ethereum, and then into their desired currency via other exchanges. Only a few cryptocurrencies are affected. This adds extra transaction costs to the process, costing you the money you don't need.
- High-profile occurrences of hacking-related robberies of client monies are examples of cyber risks. Such attacks often target centralized aspects of the ecosystem (such as wallets and exchanges), but they can also target the consensus mechanism that power blockchains [15].
- Cryptocurrency security features use the blockchain system with 'proof of work' puzzles, making them vulnerable to hacking and theft [14].

7.5. The Crypto Business

Digital currencies are used to carry out financial transactions, and also simplify trade. In addition, they have made the process of earning, spending, exchanging, and receiving money simpler to do and faster. They are able to buy virtual items within the same space or for swapping funds between platforms. In addition, users are able to purchase physical and digital items. Virtual currency, therefore, offers fantastic opportunities for companies and operators to make money from their apps and increase their profits. Different forms of cryptocurrency are used on diverse platforms, like crypto used in games for fun, social media, and peer-to-peer networks. There are two kinds of crypto platforms: central Cryptocurrency and Decentralized Cryptocurrency [19].

7.5.1. Centralized Crypto

A central cryptocurrency is a currency that is stored in a centralized repository as a type of banking system. The owner of the record is the sole authority to transfer the value of the cryptocurrency between people or from one place to another. If you want 100 Usd Crypto The need 2 to 3 days in processing this method and then transfer the Crypto in your Btc wallet Successfully. If you want to withdraw Crypto in Usd form they also need 2 to 3 days in processing or sending the amount in your Account.

7.5.2. Decentralized Crypto

Decentralized cryptocurrency is a virtual currency system that does not have a centralized repository or a single operator. Decentralized cryptocurrency can be obtained by computer. e.g., If you want Crypto you can easily buy the P2P Trading method or you can also use the mining method. There is some Imp Method that helps users grow the business.

7.5.3. NFT

NFTs are tokens based on blockchain technology that can be used to signify ownership of digital assets such as artworks, documents, or real estate on the internet. NFTs are readily available through special marketplaces like OpenSea, Axie Marketplace, and Rarible. Just one time the NFT market grew from daily sales of USD 183,121 in 2020 and an annual average USD 38 million by 2021 [19]. A few NFT was sold in the Sale of the Day the Twitter owner Jack Dorsey sold the first tweet for USD 2.9 million. The Beeple artist sold the work of artwork at USD 69 million. Cryptopunk #7523 is sold by Nft for US dollars 11.75 million. More than one million users utilize OpenSea's platform to purchase or trade digital artwork and collectibles [20]. NFT is maintained on a worldwide as well as transparent blockchain (often the Ethereum's). In the end, NFTs are decentralized software with solid verifiability, accessibility, and traceability

8. Crypto Paying method

In this method, Users and gamers under the age of 18 can pay cryptocurrency Using Real money Each digital currencies platform has its own price and exchange rate, which displays the amount of currency purchased. The purchased digital money is saved in customers' accounts, which are created by the operators inside the portals.

8.1. Offer Base Method

In this method, users and gamers who are under 18 years old can earn cryptocurrency by watching ads, answering surveys or earning game levels or playing games like Bitcoin Blocks-Earn real Bitcoin and Bitcoin Food fight to earn real Bitcoin by enrolling to try a trial membership using the offer-based approach. The players only have to complete the requirements of the promotion to earn credits and points that they can use to fund their gaming accounts on the platform [19]. In Figure 7, The Gaming earning bitcoin you can easily withdraw your Bitcoin wallet in Coinbase.

Figure 7. Earning From Game

8.2. Loyalty-based method

In this manner the user or gamer earns points, and these points can also be used to purchase vouchers, discounts, and gifts. The players earn points every time they buy through the loyalty point supplier's products and other businesses that partner with them. e.g., Amazon Launch soon Crypto E-commerce plate form and give a discount to the user, and they are applicable for only all amazon products or some listed product. In addition, they are able to combine this method with the method of payment for cryptocurrency. For instance, Saudi Airlines' customers are able to purchase additional air miles when their air miles aren't enough to buy the desired ticket [19].

9. Opportunities

Businesses are beginning to recognize the benefits of using cryptocurrencies to conduct international transactions, specifically when transactions have to be processed quickly in the event of an emergency. Due to the speed and convenience of transactions in the peer-to-peer system, cryptocurrency is well-positioned to address this issue. Since it's a peer-to peer system, it will be able to fill any gaps in the current technology of financial transactions and help solve conventional problems with banking. Since bitcoin comes with ad-hoc network capabilities, two users are able to trade bitcoin through scanning QR codes displayed on their smartphones and printed by the software. This is an extremely unique solution to the issue that has existed since a long time and has been a problem for some individuals. The number of users will increase as the number of users grows and brings the need for better crypto-related networks and apps to the forefront of discussions. There is a huge opportunity for developers to build these apps because this technology is likely to impact every industry that depends on a reliable third-party clearing service [24].

10. World Perspective About Crypto

10.1. IMF

According to the IMF, cryptocurrency is the form of virtual currency, and it has some value in digital form which is issued by private developers, and it has its own unit of account. Cryptocurrency, as defined by them, refers to a wide range of virtual currencies. It consists of simple IOU's ("Informal Certificate of Dept) by the issuer, a virtual currency backed by assets such as gold and cryptocurrencies i.e., Bitcoin [4]. As a result, the IMF has stated that consumers are in danger, citing "insufficient transparency and oversight" in this area. Furthermore, it feels that crypto assets create "data gaps" and "may open unwelcome opportunities for money laundering and terrorist financing."

10.2. World Bank

The World Bank also defines cryptocurrency as a form of digital currency and defined as a digital representation of value It is a system of digital payment that has some value in fiat currency and is represented in their own unit of account, which is different from e-money. World Bank defines cryptocurrency as a digital currency that is based on the concept of cryptography [4]. The World Bank has stated that it prefers central bank digital currencies (CBDCs) over privately held cryptocurrencies. CBDCs, it has been suggested, can significantly improve international payments systems by facilitating cross-border transactions.

10.3. FATF (Financial Action Task Force)

According to the FATF, Cryptocurrency, is a decentralized (i.e., without a central administrative authority) convertible virtual currency. (Which has some value in real currency) which is protected by cryptography and is based on math. It is built on the cryptographic idea to make it decentralized and safe economic data [4].

11. Cryptocurrency in some under-Developing Countries

11.1. Cryptocurrency in India

In [5], the authors state that India has been operating a huge number of transactions related to Cryptocurrency since 2012. Till 2013, Cryptocurrency has crucial in the Indian crypto market when the Central Bank of India & Reserve Bank of India issued a Press Release about the awareness of Virtual Currencies. Though, in 2016, it become popular and shoot-up in public when Central Government broadcast to change traditional notes with digital currency for the promotion of digital payment system. When Cryptocurrency become popular in India, in February 2017 & December 2017 Reserve Bank of India issued a Press Release about the cautions and risk concerns related to virtual currency. In November 2017, the Indian government constructed a committee for the supervision of virtual currency, later, this committee suggest a ban on private Cryptocurrency in 2019. In 2018, the Reserve Bank of India forbids banks for the services of virtual currencies, later; it was refused by the bench of the Supreme Court in 2020.

11.2. Cryptocurrency in Kenya

In [6], the authors conduct a survey to examine the use of Cryptocurrency as the payment method in Kenya. The total respondents are 251, 161 males & 90 females that belong to SMEs. 19.9% age belong to 18-30 years, 49.8% in 31-40 years, 19.5% in 41-50 years, 8.8% in 51-60 years and 2.0% in over 60 years. There is 4 Likert Question that has 5 options: strongly disagree, disagree, don't know, strongly agree, and agree. 83.3% of respondents agree to accept Cryptocurrency as a payment method over a traditional payment method, 12.8% disagree with it and 4.0% don't know about it. Additionally, 82.5% have a plan to use Cryptocurrency as a payment method, 9.2% denied it and 8.4% don't know about it. 46.2% prefer Cryptocurrency to make payment, 33.8 denied it and 19.9% don't know about it. Moreover, 74.5% agree to request to make Cryptocurrency as a payment method, 16.0% denied it and 10.0% don't know about it. The result shows that majority is satisfied with the use of Cryptocurrency as the payment method in Kenya.

11.3. Cryptocurrency in Tanzania

In [8], the authors provide consciousness about the adaptation of Cryptocurrency in Tanzania. In 2019, bank of Tanzania issues a notice about the public which trade and promote Cryptocurrency that is opposed with foreign exchange rules. Although Madam Samia Suluhu Hassan(H.E President of the united republic of Tanzania) petition to Central Bank to contemplate for new financial technology. Contrary, there is no proper study to accept or reject Cryptocurrency as a legal tender. So, Abdulmajid Nsekela (Tanzania Banker Association, Chairman) debate on challenge for regulators. He also said planning would assist Central Bank to judge about the dangers of Cryptocurrency (Reuter 2021). Besides this, authors concluded that Cryptocurrencies have to accomplish immediate transfer of money internationally. There are also some people who use Cryptocurrency without knowing the challenges and risks.

11.4. Cryptocurrency in Rwanda

In [9], the authors emphases on risks to develop Cryptocurrency on Rwanda. They don't develop tangible Cryptocurrency but presume it, if government is interested to develop their own Cryptocurrency in Rwanda. To discover the challenges and risks of developing Rwandacoin, they compared Cryptocurrencies supported by current currency (e-krona, eDinar, eCFA). Moreover, in Carnegie Mellon University and National Bank of Rwanda, conducted a survey to investigate the acceptance of Cryptocurrency. There are 45 respondents with 2 questions that have 3 options: yes, no, maybe. 44.4% is ready to use the government regulated Cryptocurrency, 20% denied with it and 35.6% choose maybe option. Furthermore, 60% is ready to promote economic activities of government regulated Cryptocurrency, 13.3% denied with it and 26.7% choose maybe option. In Table 3, shows the cryptocurrency legality, banking status and the percentage of crypto owners.

Table 3. Cryptocurrency in Different Countries

Country	Status [6]	Banking Transaction	Owners [7]
Australia	Legal	Under Process [6]	3.36%
Bangladesh	Illegal	Not Allow [6]	2.27%
Canada	Legal	Not Allow [6]	3.20%
China	Restricted	Not Allow	N/A
Denmark	Legal	Allow	1.37%
Egypt	Restricted	Not Allow	1.75%
France	Legal	Under Process	3.34%
Hong Kong	Legal	Under Process	3.27%
Iran	Legal	Under Process	1.96%
India	Neutral	Not Allow	7.30%
Japan	Legal	Allow	1.64%
Morocco	Illegal	Not Allow	2.38%
Nigeria	Neutral	Not Allow [6]	6.31%
South Africa	Legal	Under Process	7.11%
Pakistan	Neutral	Under Process	4.10%
Russia	Illegal	Not Allow [6]	11.91%

12. Experimental Results & Findings

12.1. Introduction

The purpose of this study helps to adapt the Cryptocurrency in Pakistan. This study helps to understanding the knowledge related to Cryptocurrency in Pakistan. In future, this study will fruitful when government wants to legalize Cryptocurrency in Pakistan. For this purpose, we conducted a Survey that has some general questions and 10 likert Scale statements that options are: Strongly Disagree, Disagree, Neutral, Agree and Strongly Disagree. Furthermore, there are total 110 respondents. And for the purpose of Calculation, we use SPSS software that is very suitable to analyze the results.

Table 4. Gender

		Fre	Per	V.Per	C.per
Valid	Male	77	70	70	70
	Female	33	30	30	100
	Total	100	100	100	

12.2. SPSS Data Entry

First of all, we declared variables and let the numbers to analyze data in numeric form. The variables are gender (1.00 for Male, 2.00 for Female), age (1.00 for 15-20, 2.00 for 21-25, 3.00 for 26-30, 4.00 for 31-35, 5.00 for 36-40), education (1.00 for never schooled, 2.00 for school, 3.00 for high school, 4.00 for university graduate and 5.00 for others), occupation (1.00 for student, 2.00 for Business, 3 for Banker and 4 for others), statement1 to statement10 (1.00 for Strongly Disagree, 2.00 for Disagree, 3.00 for Neutral, 4.00 for Agree and 5.00 for Strongly Disagree). Analyze the result in table and Graph form. In tables, we have frequency (Fre) that shows the respondents response rate in numeric form and their percentage(Per). For further, valid percentage(V.Per) and cumulative percentage(C.Per) also added. Contrary, in figures, Bar shows the percentage rate, and the line shows the frequency of respondents.

12.3. General Characteristics

12.3.1. Gender

In Figure 8 and Table 4 Gender, the gender of the respondents shows that males have more knowledge and interest in latest blockchain technology and Cryptocurrency as compared with females.

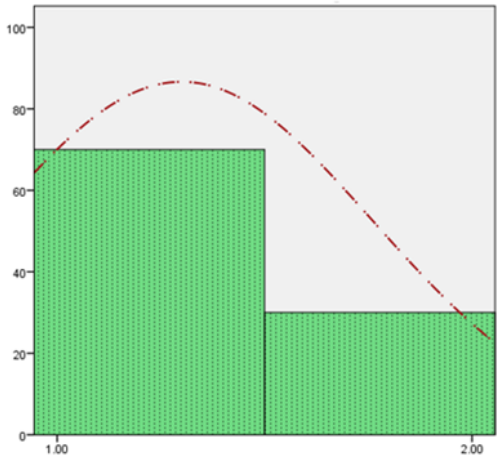

Figure 8. Gender

12.4. Age

In Figure 9 Age and Table 5, The 75 respondents belong with the age group of 21-25 and there are only 2 respondents that belong with the age group of 36-40. This means that the youth group has a more interest in latest technology as compared with others.

Table 5. Age

		Fre	**Per**	**V.Per**	**C.per**
valid	15-20	10	9.1	9.1	9.1
	21-25	75	68.2	68.2	77.3
	26-30	16	14.5	14.5	91.8
	31-35	7	6.4	6.4	98.2
	36-40	2	1.8	1.8	100

Table 6. Highest Education

		Fre	Pre	V.Per	C.Per
Valid	School	1	0.9	0.9	0.9
	High School	11	10	10	10.9
	University Graduate	92	83.6	83.6	94.5
	Others	6	5.5	5.5	100
	Total	110	100	100	

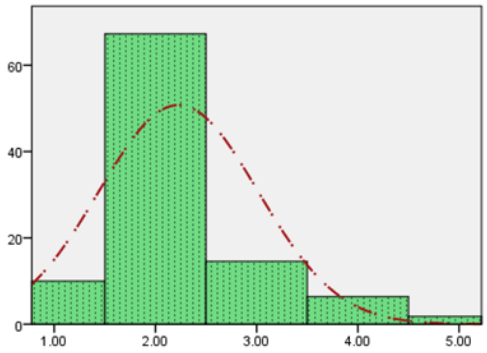

Figure 9. Age

12.4.1. Highest Education

In Figure 10 and Table 6, The 92 respondents are university graduated, 1 respondents education is just school and 0 respondents never schooled. This means that university graduated group has a more interest in latest technology as compared with others. In future, we will also propose a system that deals with the transactions of crypto through banks. We will also discuss the issues and security concerns about the adaptation of cryptocurrency in Pakistan. Furthermore, we will give the arguments on creating their own blockchain in Pakistan like bitcoin, ethereum and polygon etc. Moreover, also propose their own Pak exchange system on selling and purchasing of cryptocurrencies that is beneficial on the aspects of transaction fee.

Table 7. Major Occupation

		Fre	Pre	V.Per	C.Per
Valid	Student	72	65.6	65.5	65.5
	Business	11	10	10	75.5
	Banker	15	13.6	13.6	89.1
	Others	12	10.9	10.9	100
	Total	110	100	100	

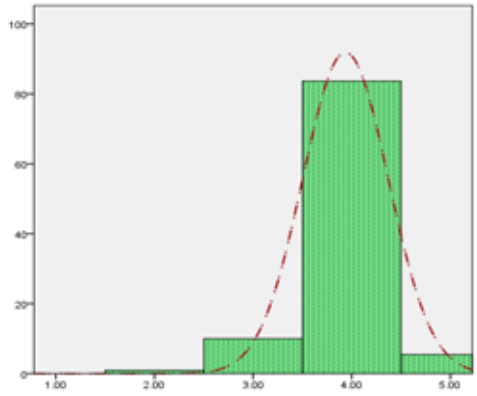

Figure 10. Highest Education

12.4.2. Major Occupation

In Figure 11 and Table 7, The 72 respondents are students, 12 respondents belong with other occupations and 15 Bankers that use opposite strategy with respect to blockchain. This means that student's group has a more interest in latest technology as compared with others.

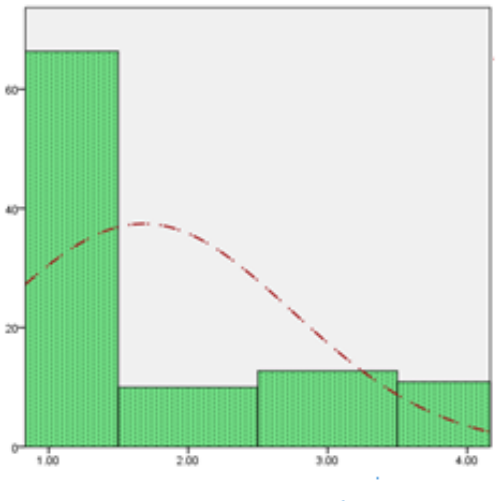

Figure 11. Major Occupation

13. Questionnaire Descriptions

13.1. Statement 1

The 1st statement of Questionnaire is "I have trust on bank". In Figure 12 and Table 8, 55 respondents agreed to trust on banks and Valid 20 respondents strongly agree with statement, only few respondents that disagree and strongly disagree to trust on banks and still 22 respondents neutral about statement.

Table 8. I have trust on banks

		Fre	Pre	V.Per	C.Per
Valid	Strongly Disagree	9	8.2	8.2	8.2
	Disagree	4	3.6	3.6	11.8
	Neutral	22	20	20	31.8
	Agree	55	50	50	81.8
	Strongly Agree	20	18.2	18.2	100
	Total	110	100	100	

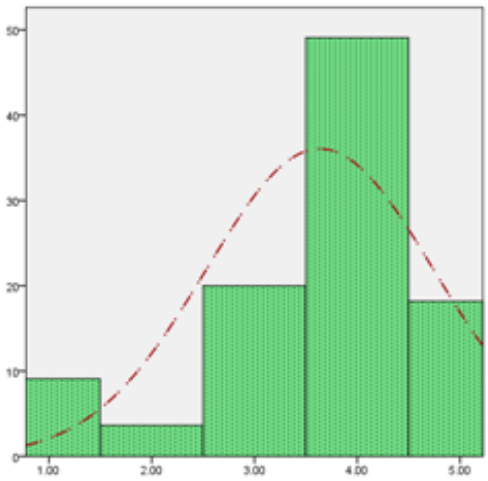

Figure 12. I have trust on banks

13.2. Statement 2

The 2nd statement of Questionnaire is "I know about Cryptocurrency i.e. Bitcoin". In Figure 13 and Table 9, 60 respondents have knowledge about Cryptocurrency and 21 respondents strongly agree with statement, 8 disagree and 4 strongly disagree that know about Cryptocurrency and 17 respondents neutral about statement.

Table 9. Know about Cryptocurrency i.e. Bitcoin

		Fre	Pre	V.Per	C.Per
Valid	Strongly Disagree	4	3.6	3.6	3.6
	Disagree	8	7.3	7.3	10.9
	Neutral	17	15.5	15.5	26.4
	Agree	60	54.5	54.5	80.9
	Strongly Agree	21	19.1	19.1	100
	Total	110	100	100	

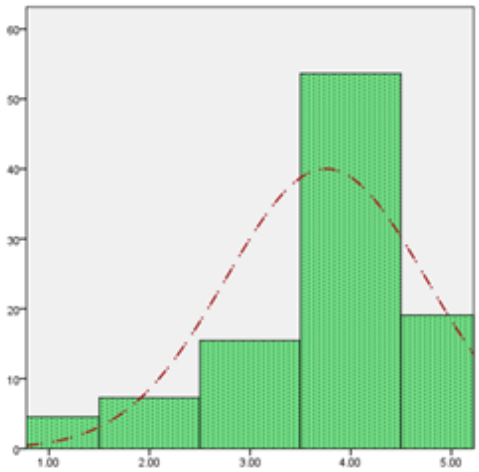

Figure 13. Know about Cryptocurrency i.e. Bitcoin

13.3. Statement 3

The 3rd statement of Questionnaire is "if yes! What you think is it important?". In Figure 14 and Table 10, 43 respondents agreed with the importance of Cryptocurrency and 15 respondents strongly agree with statement, 24 respondents that disagree and strongly disagree with the importance of Cryptocurrency and still 28 respondents neutral about statement.

Table 10. If yes! What you think is it important?

		Fre	Pre	V.Per	C.Per
Valid	Strongly Disagree	5	4.5	4.5	4.5
	Disagree	5	4.5	4.5	9.1
	Neutral	17	15.5	15.5	24.5
	Agree	54	49.1	49.1	73.6
	Strongly Agree	29	26.4	26.4	100
	Total	110	100	100	

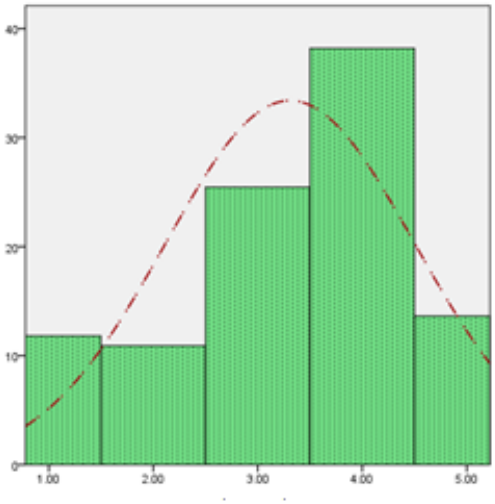

Figure 14. If yes! What you think is it important?

13.4. Statement 4

The 4th statement of Questionnaire is "Have you heard blockchain technology or Cryptocurrency before?". In Figure 15 and Table 11, 54 respondents agreed to trust on banks and 29 respondents strongly agree with statement, only few respondents that disagree and strongly disagree to heard about blockchain technology and Cryptocurrency and 17 respondents neutral about statement.

Table 11. Have you heard blockchain technology or Cryptocurrency before?

		Fre	Pre	V.Per	C.Per
Valid	Strongly Disagree	12	10.9	10.9	10
	Disagree	12	10.9	10.9	21
	Neutral	28	25.5	25.5	47
	Agree	43	39.1	39.1	86
	Strongly Agree	15	13.6	13.6	100
	Total	110	100	100	

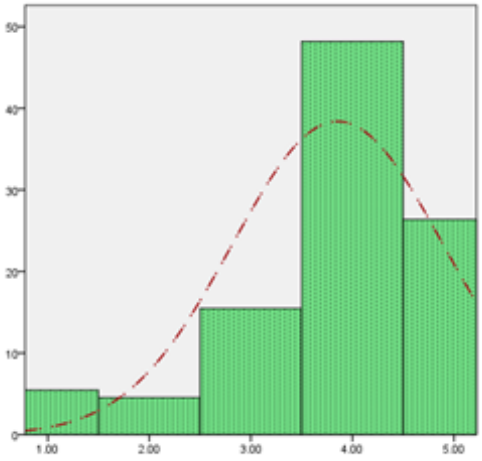

Figure 15. Have you heard blockchain technology or Cryptocurrency before?

13.5. Statement 5

The 5th statement of Questionnaire is "Do you know any kind of digital assets like bitcoin?". In Figure 16 and Table 12, 60 respondents agreed that know about digital assets and 23 respondents strongly agree with statement, only 12 that disagree and strongly disagree to know about digital assets and 15 respondents neutral about statement.

Table 12. Do you know any kind of digital assets like bitcoin

		Fre	Pre	V.Per	C.Per
Valid	Strongly Disagree	6	5.5	5.5	5.5
	Disagree	6	5.5	5.5	10.9
	Neutral	15	13.6	13.6	24.5
	Agree	60	54.5	54.5	79.1
	Strongly Agree	23	20.9	20.9	100
	Total	110	100	100	

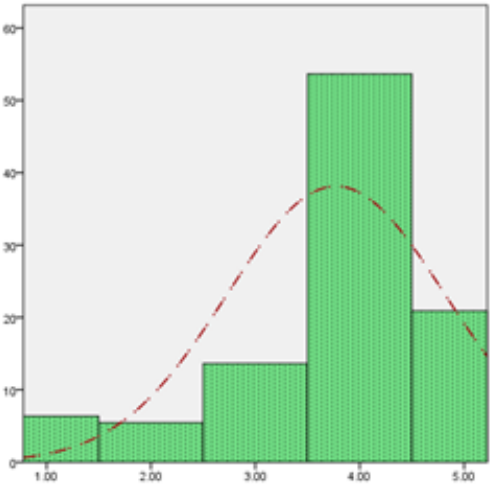

Figure 16. Do you know any kind of digital assets like bitcoin

13.6. Statement 6

The 6th statement of Questionnaire is "I prefer Cryptocurrency instead of Traditional Payment Method". In Figure 17 and Table 13, 35 respondents agreed to prefer Cryptocurrency instead of Traditional Payment Method and 12 respondents strongly agree with statement, 22 disagree and 13 strongly disagree to prefer Cryptocurrency instead of Traditional Payment Method and 28 respondents neutral about statement.

Table 13. Prefer Cryptocurrency instead of Traditional Payment Method

		Fre	Pre	V.Per	C.Per
Valid	Strongly Disagree	13	11.8	11.8	11.8
	Disagree	22	20	20	31.8
	Neutral	28	25.5	25.5	57.3
	Agree	35	31.8	31.8	89.1
	Strongly Agree	12	10.9	10.9	100
	Total	110	100	100	

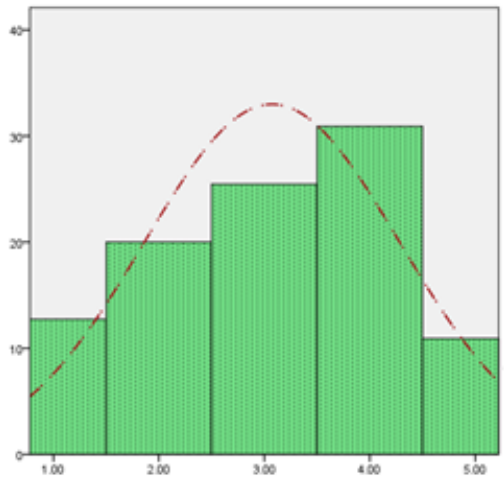

Figure 17. Prefer Cryptocurrency instead of Traditional Payment Method

13.7. Statement 7

The 7th statement of Questionnaire is "I think Banks also want to perform Transactions on Cryptocurrency like as Traditional Payment System". In Figure 18 and Table 14, 33 respondents agreed to think Banks also want to perform Transactions on Cryptocurrency like as Traditional Payment System and 14 respondents strongly agree with statement, 17 disagree and 16 strongly disagree to think Banks also want to perform Transactions on Cryptocurrency like as Traditional Payment System and 30 respondents neutral about statement.

Table 14. I think Banks also want to perform Transactions on Cryptocurrency like as Traditional Payment System

		Fre	Pre	V.Per	C.Per
Valid	Strongly Disagree	16	14.5	14.5	14.5
	Disagree	17	15.5	15.5	30.5
	Neutral	30	27.3	27.3	57.3
	Agree	33	30	30	87.3
	Strongly Agree	14	12.7	12.7	100
	Total	110	100	100	

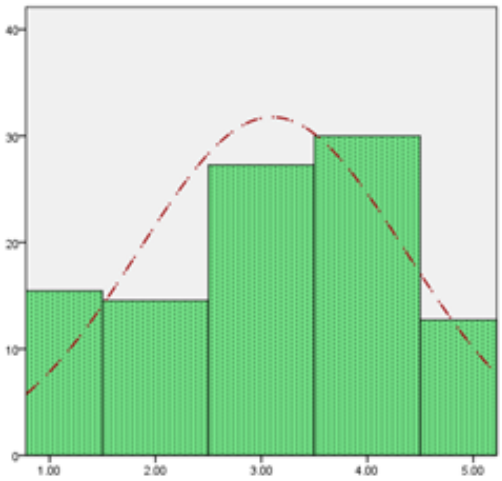

Figure 18. I think Banks also want to perform Transactions on Cryptocurrency like as Traditional Payment System

13.8. Statement 8

The 8th statement of Questionnaire is "I think Cryptocurrency can end corruption in Pakistan". In Figure 19 and Table 15, 38 respondents agreed to think Cryptocurrency can end corruption in Pakistan and 18 respondents strongly agree with statement, 13 disagree and 14 strongly disagree to think Cryptocurrency can end corruption in Pakistan and 27 respondents neutral about statement.

Table 15. I think Cryptocurrency can end corruption in Pakistan

		Fre	Pre	V.Per	C.Per
Valid	Strongly Disagree	14	12.7	12.7	12.7
	Disagree	13	11.8	11.8	24.5
	Neutral	27	24.5	24.5	49.1
	Agree	38	34.5	34.5	83.6
	Strongly Agree	18	16.4	16.4	100
	Total	110	100	100	

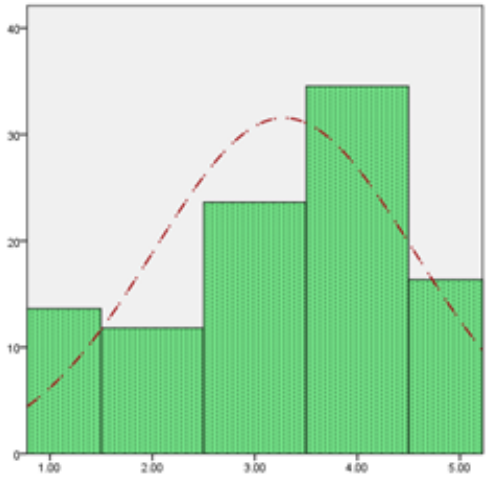

Figure 19. I think Cryptocurrency can end corruption in Pakistan

13.9. Statement 9

The 9th statement of Questionnaire is "I think Cryptocurrency can be used for illegal businesses such as money laundering". In Figure 20 and Table 16, 39 respondents agreed to think Cryptocurrency can be used for illegal businesses and 20 respondents strongly agree with statement, 12 disagree and 6 strongly disagree to think Cryptocurrency can be used for illegal businesses and 33 respondents neutral about statement.

Table 16. I think Cryptocurrency can be used for illegal businesses such as money laundering

		Fre	Pre	V.Per	C.Per
Valid	Strongly Disagree	6	5.5	5.5	5.5
	Disagree	12	10.9	10.9	16.4
	Neutral	33	30	30	46.4
	Agree	39	35.5	35.5	81.5
	Strongly Agree	20	18.2	18.2	100
	Total	110	100	100	

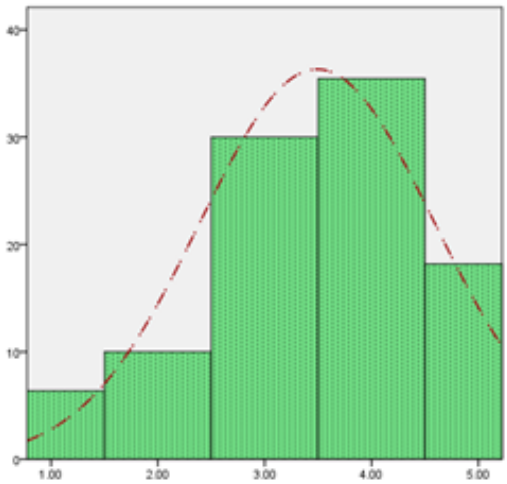

Figure 20. I think Cryptocurrency can be used for illegal businesses such as money laundering

13.10. Statement 10

The 10th statement of Questionnaire is "I think Cryptocurrency can fast to transfer money internationally". In Figure 21 and Table 17, 44 respondents agreed to think Cryptocurrency can fast to transfer money internationally and 30 respondents strongly agree with statement, 8 disagree and 6 strongly disagree to think Cryptocurrency can fast to transfer money internationally and 33 respondents neutral about statement.

Table 17. I think Cryptocurrency can fast to transfer money internationally

		Fre	Pre	V.Per	C.Per
Valid	Strongly Disagree	6	5.5	5.5	5.5
	Disagree	8	7.3	7.3	12.7
	Neutral	22	20	20	32.7
	Agree	44	40	40	72.7
	Strongly Agree	30	27.3	27.3	100
	Total	110	100	100	

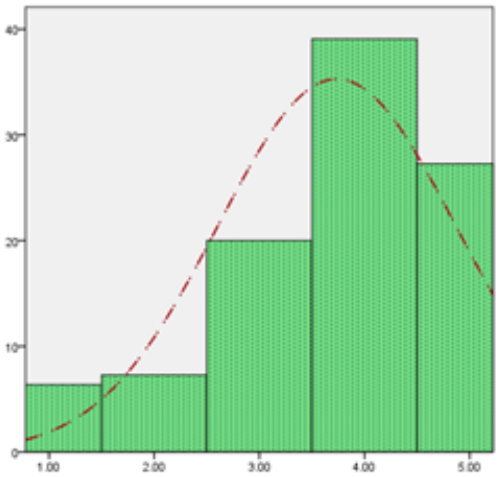

Figure 21. I think Cryptocurrency can fast to transfer money internationally

14. Future Work

In future, we will also propose a system that deals with the transactions of crypto through banks. We will also discuss the issues and security concerns about the adaptation of cryptocurrency in Pakistan. Furthermore, we will give the arguments on creating their own blockchain in Pakistan like bitcoin, ethereum and polygon etc. Moreover, also propose their own Pak exchange system on selling and purchasing of cryptocurrencies that is beneficial on the aspects of transaction fee.

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Conflicts of Interest: "The authors declare no conflict of interest."

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