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Comparative Study of Laws on Crypto Currency and Diminishing Cyber Privacy

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ABSTRACT

With the advancement of technology, data privacy and data protection have become a major concern. People have now become dependent on internet and websites for connecting with their friends and relatives, for shopping, finding a groom or a bride, or making financial transactions. It might lead to infringement of private data if not used cautiously. Data protection of the data users is now at stake by the interference of strangers. Digital technologies are our reality and not the future. The modern states especially focus on developing new and competitive technologies. Therefore, it is important to put forward the state-of-the art issues and explain future steps in regulation of the digital technologies across the world. The nexus between crypto currency and recent cybercrimes shall be discussed. Absence of any regulatory framework in India to govern recent digital technologies and latest cybercrimes give ample opportunity to the fraudsters to infringe the data privacy of netizens. The privacy issues on using crypto currency are fake tech support, fake crypto exchanges, fake investment scams, phone porting, data theft where crypto scammers target innocent victims and rob all money from them.

Keywords: *technology, crypto currency, cybercrimes, transactions, law, netizens.*

I. INTRODUCTION

Crypto currency is an electronic payment system that is not dependent on any bank or any third party to verify transactions. It is a peer- to- peer network system that can allow any person to send and receive payments from any place at any time. People make use of it for business or trade or investments or for online shopping. People can exchange real currency to buy coins or tokens of a certain kind of crypto currency. Users of crypto currency can also purchase the currencies, store and spend them by cryptographic wallets.

Crypto currency is different and unique from paper currencies or other type of currencies due to the following characteristic features-²

- Adaptive scaling – it works well on both large-scale and small-scale level.

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² Dejey and Murugan, Cyber Forensics, 2018 edition, pp123-124, Oxford University Press, New Delhi, India

- Virtual – it is created from computer code. It has no central bank and is not backed by any government unlike paper money.
- Vulnerable – it is exposed to the possibility of being attacked by fraudsters as it is stored in digital wallets. There is always a high chance of being hacked.
- Cryptographic – it uses an AKA encryption algorithm to create currencies and verify transactions. Authentication and Key Agreement (AKA) is a security protocol used in 3G networks to secure any communication system, for example, electronic commerce. AKA provides ways to verify the communicating parties' authenticity.
- Decentralised – it is not regulated or controlled by any central authority, and relies on peer-to-peer network.
- Digital – it is not a physical object and is created, stored, transferred, verified, and validated digitally.
- Open source – developers can create crypto currency without paying any amount. All cryptographic transactions are open source.
- Proof-of-work – it uses a proof-of-work scheme, which is a method of adding value to cryptocurrency.

Figure 1 represents the features of crypto currency.

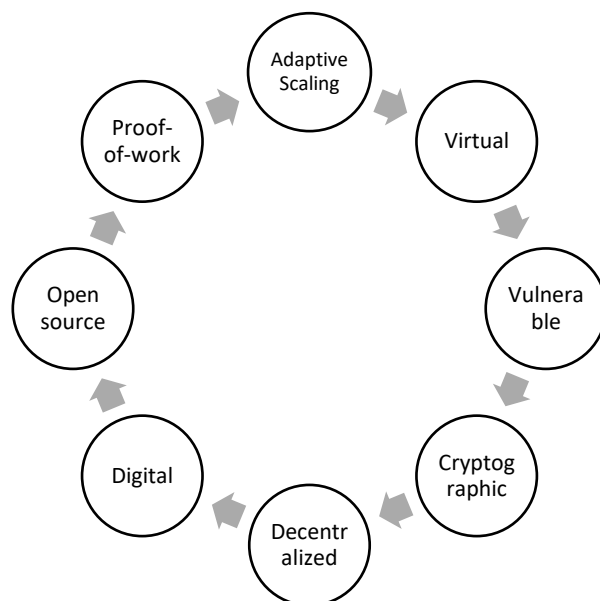


Fig 1. Features of crypto currency

II. TYPES OF CRYPTO CURRENCY WALLETS

Crypto currency makes transferring and exchange of funds between two parties easy and

convenient during a transaction and requires very nominal fees for fund transfer. Crypto currencies can be bought, stored, sent, and received through a crypto currency wallet. There are various types of crypto currency wallets which are very convenient and easy to use.³

The following are the crypto currency wallets –

- Desktop wallet – It is a commonly used application that directly connects to the crypto currency's client.
- Online wallet – it is a web-based wallet but data is stored on the virtual server.
- Mobile wallet – it runs from a smartphone application.
- Hardware wallet – it is used to hold crypto currency which is generally a USB device.
- Paper wallet – it is used to send and receive crypto currency by printing out a QR code for both public and private keys.

Figure 2 represents the different types of crypto currency wallets.

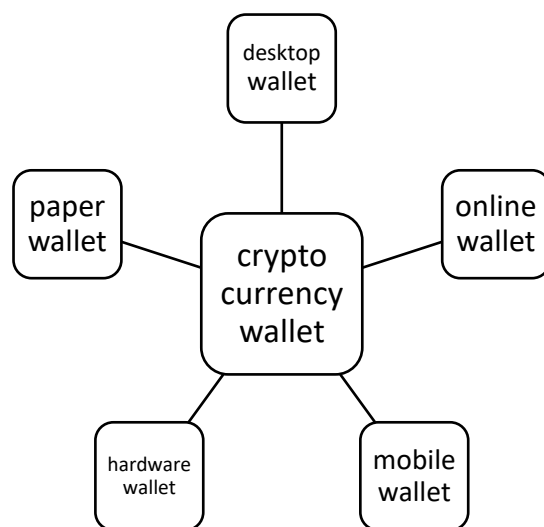


Fig. 2. Types of crypto currency wallets

III. CRYPTO CURRENCY SERVICES

There are numerous crypto currency services offering information and monitoring of crypto currencies. Coin Market Cap is an excellent way to check the market cap, price, size and volume of crypto currencies. Reddit is a brilliant way to stay in touch with the crypto currency community and follow the latest trends. Liteshack provides a graph which shows whether a particular coin is gaining or losing. Crypto coin charts contain a list of crypto coins exchanges.

³ Dejeu and Murugan, Cyber Forensics, 2018 edition, pp123, Oxford University Press, New Delhi, India

Coin Warz is a site which helps miners to identify which coin is the most profitable to mine and the current rate of coins.⁴

IV. ADVANTAGES AND DISADVANTAGES OF CRYPTO CURRENCY

Crypto currency has the following advantages-

- Money transfer between two persons is smooth and there is no interference of third person like ATM, credit/debit cards or banks.
- It is less expensive than other online financial transactions.
- It is a great option for trading, business and future investments.
- There is no limit on purchases and withdrawals of crypto currency.
- The payments are safe, secured and offer an unprecedented level of anonymity. The names and identity of the parties are kept confidential.
- Crypto currency services are available with a user “wallet” or account address which is secured only by a public key and private key. The private key is only known to the owner of the crypto wallet which is a great advantage.
- Funds transfers can be done with reasonable processing fees.
- Though crypto currency has the above benefits, it has the following disadvantages also which are as follows-
- The almost hidden nature of crypto currency transactions makes them easy to be the focus of illegal activities such as money laundering, tax-evasion, terror-financing, data theft, financial loss, etc.
- The Payments are not irreversible. People who have invested in crypto currency and made a huge loss in that cannot get their money back.
- It is not issued by any centralised authority which gives a great opportunity for the fraudsters to scam people.
- Crypto currency is not a legal tender in many countries including India and India does not have any law to regulate crypto currencies.
- Crypto currencies are not accepted everywhere and have very limited value elsewhere.

⁴ibid

V. CYBER SECURITY ISSUES AND DIMINISHING PRIVACY OF NETIZENS ON USING CRYPTO CURRENCY

1. Fake Tech Support

Fake tech support scheme is the most effective and widespread form of cyberattack. A technological support scam is a type of fraud in which a scammer claims to offer a legitimate technological support. Victims get trapped by fake tech support by clicking fake pop-ups at the bottom of the screen or at the top on fake websites owned by the scammers. The scammers persuade the victims by saying that there is a problem on their computer or mobile which they have to fix it now, otherwise that will damage their device. The scammers will convince the victims to pay to fix the problem, when there is actually no problem on their device. They also say that in return, crypto coins can be earned. Payment to scammers is done by ways which are hard to trace and have few consumer protections.⁵ Scammers often get to infringe the data of the netizens by using this method by stealing personal information like bank details, passwords, and other personal details.

2. Fake Crypto Currency Exchanges

Crypto currency exchanges present a significant platform for buying and trading digital assets. Many of these crypto apps are fake, fraud, uncontrolled and violate the privacy of the individuals. These exchanges badger individuals, deny crypto wallet withdrawals, charge high fees, or steal money from the users causing excessive economical loss to the users. The scammers use hoax URL names to resemble the original ones. These hoax sites have similar but slightly different domain names from the genuine ones, making it difficult for users to identify whether it is actual. The fake crypto websites are created to be phishing pages and all the data entered by the users will be known to the fraudsters including passwords and other financial details.⁶ Figure 4 represents an example of fake crypto currency exchange.



Fig. 4. Example of fake crypto currency exchange

⁵ Technical support scam, https://en.wikipedia.org/wiki/Technical_support_scam# as on 10-03-2022

⁶ A List of Fake Crypto Websites & Trading Platforms 2023, <https://news.trendmicro.com/2022/01/31/a-list-of-fake-crypto-websites-trading-platforms-2022/> as on 03-06-2022

3. Blackmailing Scams

Another method the scammers use is blackmail. Crypto blackmail is a kind of threat supported by a demand which asks to pay money at a crypto currency address. They send emails that claim to have a record of pornographic websites frequently visited by the user and threaten to disclose them unless they share private keys with them or send crypto currency to the scammer. The emails will try to extort from the recipient. The emails may indicate the recipient's device is loaded with a virus or malware. The sender will then ask to pay money using crypto currency for keeping the device virus free. An example of blackmailing scam is MyloBot. The MyloBot malware is known to infect the computer by sending sextortion mails and demands the ransom in crypto currency bitcoins. The Mylobot malware will get access to the computer, mobile phones, or any other devices if someone replies to that mail or click any link or open any attachment. This is dangerous if someone's computer is having pornographic content. They threaten people by saying that they will expose all personal details if they are not paid money using crypto currency. This is another method of crypto currency crime where criminals try to make the scam convincing.

4. Fake Investment Scams

Fake crypto investment scam techniques are used by scammers to make people invest in fake crypto projects and lose their investments entirely. These include big profit promises and fake testimonials to convince clients to part with coins. After someone invests, the coins disappear.⁷ The criminals make the victims believe that they will get fixed returns for investing in their mining programs or platforms. Such types of coin do not offer any kind of utility but a lot of promises come along. This type of crypto currency tries to convince the investors of the benefits of an unknown coin and asks them to buy the fake project. The scammers will try to get access to security passwords by sending links or websites which contains malware. They send mails to victims by saying that they have to reset their crypto investment account by clicking into the link send by them otherwise their account will be blocked. Once the link is linked, all personal details of the victim are disclosed to them leading to financial loss to the victim.

5. Phone Porting

Phone porting is not a new kind of scam. It is very common and practised from a very long time. Phone is transfer of a number to another carrier in order to take control of the phone while closing down the account of the victim. The scammer steals the identity, personal details,

⁷ Beginner Guide to Cryptocurrency Scams and Fraudulence, <https://cryptostaunch.com/cryptocurrency-scams.html> as 09-06-2022

passwords of the victim and use it to call the phone service provider to transfer the number to another provider. They log the victim of all his accounts. Even when the victim tries to reset the passwords the verification codes will not reach his phone.⁸ It involves criminals knowing all personal information about the victim. Cell phone number porting can be done in various ways and has numerous consequences. The fraudsters may call the victim by saying that his sim card will be blocked if he does not update his KYC (Know Your Customer) details. For updating KYC details, he has to download an app. As soon as he downloads, all personal details of the victim are given access to the fraudster. The fraudsters will gain direct access to bank accounts of the victim and steal all the money. Whenever this kind of scam happens, the best option is to call the customer service provider to block the SIM card. Victims should also call the bank customer service and the police.

VI. ANALYSIS OF LAWS RELATING TO CRYPTO CURRENCY

1. **Brazil-** The Brazil Bill on cryptocurrency, Bill 2303/15 includes definitions of crypto exchanges and imposes specific penalties for crypto currency related crimes.⁹ Brazil's Securities Exchange Commission, Comissao de Valores Mobiliarios (CVM), gave a final decision that the digital currency Niobium Coin (NBC) is not a financial asset. The CVM has declared that virtual currencies are to be considered securities only when they pay interest or dividends to their investors, or when they allow for participation in company management through votes.¹⁰
2. **Switzerland-** Switzerland's regulatory approach towards crypto currency is extremely commendable and appreciative. Swiss Financial Market Supervisory Authority (FINMA) guidelines include persons who exchange crypto currencies for fiat money and vice versa as well as for a different crypto currency on a commercial basis (crypto currency exchanges), and to custodian wallet providers in the Anti-Money Laundering legislation. Since 2017, the Payments Services Act requires Crypto currency exchanges to be registered under it, and provides a definition to Crypto currency.
3. **United Kingdom-** In November 2019, the UK Jurisdiction Task Force (UKJT), a panel of expert barristers published a Legal statement on crypto assets and smart contracts. The aim was to create market confidence, legal certainty legal predictability around the use of crypto

⁸ Oliver Smith, 6 types of crypto crimes how to mitigate them, <https://medium.com/shufti-pro/6-types-of-crypto-crimes-how-to-mitigate-them-4a67430824da> as on 10-06-2022

⁹ Aakanksha Chaturvedi, Brazil passes bill to regulate cryptocurrencies, <https://www.businesstoday.in/crypto/story/brazil-passes-bill-to-regulate-cryptocurrencies-331396-2022-04-27> as on 10-03-2022

¹⁰Cvetkova Irina, Cryptocurrencies legal regulation, BRICS law journal, Volume V (2018) Issue 2

currencies and provide investors with the confidence in using crypto currencies as a legal asset. The legal statement declared that crypto currency is legally equivalent to property and possess all the necessary features of a property. The distinctive features of crypto currencies, which are decentralisation, distributed transaction ledger, anonymity does not prevent it from being considered as property. In *AA vs Persons Unknown*, it has been confirmed by the English High Court finally that crypto currencies are property under English Law and are capable of being subject to a proprietary injunction. In previous cases also, the English High Court has confirmed the imposition of proprietary injunction in case of crypto currencies. But in *AA vs Persons Unknown* case, finally crypto currency was accepted as a property and proprietary injunction can be imposed on it. In the United Kingdom, it is legitimate to operate and use crypto currencies but shall have to register with the Financial Conduct Authority. All the crypto asset firms including recognized crypto currency exchanges, advisers, investment managers, managers that have a market presence in United Kingdom have to register themselves with the Financial Conduct Authority. The Financial Conduct Authority has also released certain guidelines on crypto assets which includes creation, sale, marketing, purchase, exchange, issuance of new coins and it aims to aware consumers about the rules and regulations of crypto assets. The UK also requires know-your-customer (KYC) and customer due diligence (CDD) checks for all crypto-assets businesses. Virtual Asset Service Providers (VASPs) must also keep a record of all transactions and appoint an individual in charge of seeing whether rules and regulations are being complied with or not. Individuals are also liable to pay tax for any income or gains on crypto currency. In order to operate crypto currency in UK, crypto exchanges must be registered with the FCA, or, alternatively, apply for an e-money license. Bitcoin ATMs in UK are legal, provided they are licensed and regulated by the FCA.

4. **South Korea-** South Korea passed an amendment to the Act on the Reporting and Use of Specific Financial Transaction Information (the “March 2020 Amendment”) which provides a regulatory framework on crypto currencies and related services and activities, officially legalizing crypto currency in South Korea and mandating certain compliance measures. The Korean virtual asset service providers have to register with an authorized bank account and provide customers with real name bank accounts held at the same bank, acquire an Information Security Management System (ISMS) certificate from the Korea Internet Security Agency (KISA), provide all company details and bank account details to the Korea Financial Intelligence Unit (KoFIU) and execute Anti-Money Laundering/Know

Your Customer (AML-KYC) procedures.¹¹ The main object of bringing this rule is to verify or authenticate the identity of the trader and restrict criminal and money laundering activities.

5. **Singapore-** Singapore is a business-friendly, low-tax and technology friendly jurisdiction for Crypto currencies. In January 2020, Monetary Authority of Singapore (MAS) announced that the Payment Services Act, 2019 legalises the Digital Payment Token services, that are Crypto Businesses under the recent rules on Anti- money laundering (AML) and counter terrorist- financing (CFT). The Crypto currency businesses will have to register with MAS and after the registration, they will have to apply for a Payments Institution license within 6 months of the registration.¹²
6. **Canada-** Canada considers crypto currencies as digital assets and tax can be imposed on sale or any other profits. In Canada, crypto currency is considered as a commodity under the Income Tax Act, 1867. Payment or sale of goods or services using crypto currencies is subject to tax in Canada.¹³ Canada became the first nation to establish laws regulating crypto currency exchanges by amending the Proceeds of Crime and Terrorist Financing Act (PCA) to cover all persons or entities dealing in crypto currencies. This includes requiring the same due care and diligence, reporting, communication, verification, and record keeping. As of June 2021, every crypto currency exchange in Canada must register with FinTRAC (the Financial Transactions and Reports Analysis Centre of Canada).¹⁴
7. **El Salvador-** The first country to accept bitcoin as a legal tender is El Salvador on September 2021.¹⁵ In El Salvador, there is no capital gains tax on crypto currency.¹⁶
8. **Iceland-** Iceland regulates virtual currencies as electronic currency through the Icelandic Exchange Act, 2021, which effectively prohibits entities from engaging in the exchange of virtual currency. In Iceland, crypto currencies may not be recognised as a legal tender, but it is not illegal to trade with them.
9. **Belgium-** The National Bank of Belgium has alerted investors and the public of the dangers of virtual currencies and declared that they are not legal tender. From May 2022, any legal

¹¹ South Korea and Cryptocurrency, <https://freemanlaw.com/cryptocurrency/south-korea/> as on 12-05-2022

¹² Chinmay Lenka, Analysis of the Cryptocurrency Verdict and what it means for India, <https://blog.ipleaders.in/analysis-cryptocurrency-verdict/> as on 19-06-2022

¹³ Cvetkova Irina, Cryptocurrencies legal regulation, BRICS law journal, Volume V (2018) Issue 2

¹⁴ Canada and Cryptocurrency, <https://freemanlaw.com/cryptocurrency/canada/> as on 19-06-2022

¹⁵ United Kingdom and Cryptocurrency, <https://freemanlaw.com/cryptocurrency/united-kingdom/> as on 16-06-2022

¹⁶ Sandeep Soni, El Salvador's President: No capital gains tax on Bitcoin, permanent residence for crypto entrepreneurs, <https://www.financialexpress.com/economy/el-salvadors-president-no-capital-gains-tax-on-bitcoin-permanent-residence-for-crypto-entrepreneurs/2267755/> as on 12-06-2022

entity established and operating in Belgium that want to provide exchange services between virtual currencies and legal currencies are required to register with the Financial Services and Markets Authority (FMSA), the country's financial regulator.¹⁷

10. Germany- In Germany crypto regulation 2022, crypto currency transactions are exempted from VAT and have no tax on capital gains. To get exempted from the taxes, the buyers are required to hold their digital assets for a period of one year, and if they sell crypto currencies before one year, then the income on the sale will be taxed with a Progressive Income Tax of 45%.¹⁸

11. India- In India, there is no law which either allows or forbids the use of crypto currencies or crypto assets and govern their usage. The Cryptocurrency and Regulation of Official Digital Currency Bill, 2021 prefers to prohibit all private crypto currencies in India but has not been enforced yet. Section 115 BBH was included in The Income Tax Act, 1961 in Budget 2022 for making income tax mandatory on VDA transfer, gift and treatment of loss. A Virtual Digital Asset (VDA) includes cryptocurrency, Non-Fungible Tokens (NFTs) and any other digital asset according to Section 2(47)(A) of The Income Tax, 2022. But only Government recognized Virtual Digital Assets will be taxed. Section 115 BBH of the Act mentions that income from transfer of crypto currencies will be taxable at the rate of 30%.¹⁹ Section 194S of The Income Tax Act mandates tax deduction at the rate of 1% on transfer of Virtual Digital Asset by income tax payer. In India, The Information Technology Act, 2000 does not mention about the invention, utilization and legitimization of crypto currency. There should be an independent statute in India which will largely deal with crypto currency. The Act should define the term crypto assets, the various types of crypto currencies, discuss the rights and duties of crypto assets provider. Because it is difficult to recognize crypto assets provider by the Government, it should be compulsory for all the crypto assets provider to get themselves registered and licensed. The Act should also insert provisions for all the possible crypto currency crimes and inflict penalty on the accused.

VII. CONCLUSION AND SUGGESTIONS

Privacy of netizens has become a major issue on all social networking platforms and is gradually diminishing at a rapid rate. A crypto currency wallet app should always be verified before using

¹⁷ Belgium and Cryptocurrency, <https://freemanlaw.com/cryptocurrency/belgium/> as on 20-06-2022

¹⁸ Elena R, Crypto Regulations in Germany 2024 – Crypto Capital of Europe, <https://coinpedia.org/cryptocurrency-regulation/cryptocurrency-regulations-in-germany/> as on 19-06-2022

¹⁹ Neeraj Bhagat, Taxation of Cryptocurrency in India, <https://taxguru.in/income-tax/taxation-cryptocurrency-india.html> as on 12-06-2022

it by sending a limited amount to know whether it is genuine. Crypto scammers use social media platforms and advertise their fraudulent schemes by using unauthorized images of celebrities, or high-profile business people to create a sense of authenticity. People investing in crypto currency must be aware and have full knowledge about this as it can lead to economical loss and infringement of their private data. Passwords, usernames should be changed periodically, two-step verification should be allowed on all crypto apps by the users. Crypto currency wallet details should not be shared with anyone, two-factor authentication should be activated on crypto currency wallet app. Before clicking any URL (Uniform Resource Locator) link or attachments it has to be confirmed whether it has SRL (Shift Right Logical), that is 'https'. Therefore, we demand a strong and stringent law on crypto currency at the earliest for the prevention of crypto currency crimes in India.
