E-Book

Handbook on Digital Financial Assets for CA's

The Institute of Chartered Accountants of India

(Set up by an Act of Parliament)

Southern India Regional Council

Chennai

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FOREWORD

An "Asset", as per IFRS (International Financial Reporting Standards), the most widely used financial reporting system is defined as follows: "An asset is a present economic resource controlled by the entity as a result of past events. An economic resource is a right that has the potential to produce economic benefits."

Therefore, in simple words, a Digital financial Asset is primarily anything that is stored digitally and is uniquely identifiable and that an organization can use to realize value.

Common examples of a Digital financial Asset can also include documents, audio, videos, logos, slide presentations, spreadsheets and websites; which have the potential to produce economic benefits.

When we generally speak of a Digital financial Asset, the first thing that comes to the mind of most of us – or rather the uninitiated among us – is crypto currencies. Similarly, when we generally speak of crypto currencies, the first thing that may come to our mind is Bit coin.

However, things are changing fast, with the rapid pace at which crypto currencies are penetrating our financial world, people are more aware of the nitty-gritties. Crypto currencies are soon making a sizeable space for themselves in the investment portfolios of the regular investors, especially the millennial.

We are now able to differentiate between Bit coins, crypto currencies and block chain. We are now able to appreciate that Block chain is the wider technology and crypto currencies are just one of its many use cases. Likewise, Bit coin is one of the many crypto currencies that are traded today.

When we do a deep dive into digital assets, we learn that digital assets are more than just crypto currencies and that there is another subset or another type of digital assets that can be better associate with crypto currencies than digital assets. This subset of a Digital financial Asset are called virtual digital assets (VDAs).

Virtual Digital Assets have been in the news off-late with the big announcement on the taxability of the VDAs by the Hon'ble Finance Minister in the Union Budget of 2022. In this e-book, we will first see what digital assets are and then move on understanding virtual digital assets and the evolving accounting and auditing aspects.

We are conscious of the fact that in a publication meant for professional accountants like this there is a scope for further improving form, contents, presentation and coverage. Accordingly comments and suggestions on the e-book are welcome at sirc@icai.in

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Handbook on Digital Financial Assets for CA'S

A. Introduction to Digital financial Asset

The past couple of years have seen a massive uptake of 'virtual digital assets' (VDAs). From being non-existent, it is now a fairly familiar concept in the field of finance and technology not just in India but globally. So how did this transformation happen over such a short period of time? What makes VDAs a valuable, yet not well understood phenomenon? Let us dive straight into it !

1. **What are VDAs?**

At a basic level, 'virtual digital assets' are electronic files of data which could involve a combination of any information, code, number or token. What makes VDA unique is two aspects:
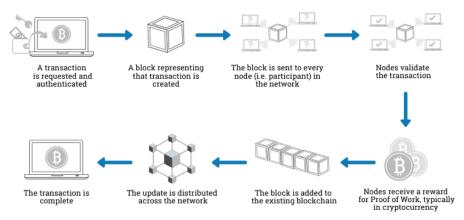
(a) they are generated through cryptographic means which makes the information encyrpted and secure

(b) can be a store of value in itself (like a virtual currency) or represent ownership in another assets (like original digital media)

VDAs and blockchain

One can argue that the money in our bank accounts which we transact with or that property records available on government registers are similar. But what makes VDAs different is its close linkage to the blockchain technology. Blockchains are records of ownership of digital assets are held securely on a type of decentralised database, or electronic ledger, which is distributed among its users rather than a central authority In a traditional internet banking, if A has Rs.100,000 in his/her bank accounts and needs to make a transfer to B, A places a request to his/her bank instructing it to make a payment to B. Once the request is validated, it is then processed by A's bank which debits A's account and sends the funds to B's bank through a digital interface. B's bank then accepts and credits the funds to B's account. Only once all of these tasks are completed, the transaction is considered successful. The individual ledgers of the different users in such a system are maintained in a by a central authority such as banks. Similarly in case of property transfer, the revenue department, would keep a record of In blockchain, the transfer of digital assets can be done without the need to go through a central party, such as a bank, broker or intermediary. In the earlier

transaction, to be done using blockchain, A basically creates an entry in his/her ledger regarding the transfer to B and transmits this to all users in this network, each of whom can validate this transaction with A and B to basically update their version of the shared ledger of A and B's balances. The individual ledgers of the different users are maintained in a decentralised manner. Hence, each member of the network become a real-time keepers, thus making transactions secure and transparent. The below flowchart by Euromoney Learning illustrates the various steps of how a transaction gets into the blockchain:

How does a transaction get into the blockchain?

A transaction is requested and authenticated

A block representing that transaction is created

The block is sent to every node (i.e. participant) in the network

Nodes validate the transaction

The transaction is complete

The update is distributed across the network

The block is added to the existing blockchain

Nodes receive a reward for Proof of Work, typically in cryptocurrency

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Categories of VDAs

VDAs can be broadly categorised into two types – fungible and non-fungible.

(1) Fungible – Fungible assets are identical to each other. These includes cryptocurrencies, stable coins, central bank digital currencies (CBDCs) and security tokens, among others

(2) Non-fungible – Non-fungible assets or tokens are unique and non-interchangeable digital assets that can be stored and transmitted through blockchains. Examples include art records, tickets, in-game items, etc.

History and evolution of VDAs

VDAs came into being with the creation of Bitcoin by an anonymous creator named Satoshi Nakamoto, who released a white paper outlining the blockchain system. This formed the basis for bitcoin, which can be "mined" by deploying computers to solve complex mathematical puzzles. Bitcoin was primarily designed to be an alternative to traditional currencies, both as a medium of exchange and store of value. Its supply is capped at 21million units.

In May 2010, a man in Florida paid 10,000 bitcoins for two pizzas, the first purchase with the digital coins. Since then, a number of trading platforms arose where bitcoins could be freely traded. An increased interest in bitcoin, saw the value of bitcoin rise from $0.08 in 2010 to about $67,000 in 2021. However, it still remains highly volatile in traded value.

As user interest in blockchain and bitcoin grew, a number of other crypto-currencies also came into the scene. In 2014, Tether, was launched as the first stablecoin, essentially aimed at tying its value to real world asset in order to reduce the volatility (eg: US dollar or gold). In 2015, Ethereum went live with a unique ability to carry data in its code. Ethereum's computing platform enables developers to build and deploy decentralized applications such as smart contracts, banking systems, voting systems, etc.

Ethereum blockchain has accelerated the creation of NFTs (Non-fungible tokens) an asset class. NFTs are created through smart contracts that determine ownership and transfers of the assets. NFTs can represent ownership of unique items, including art and culture, collectibles, gaming, sports, among others. The tokens proves the originality of the owner's which can be verified through the content creator's public key and form a permanent part of the token's history. The tokens can then be sold on a NFT market or directly.

During the pandemic when content creators saw their opportunities shrink, NFTs   allowed them to sell their content and earn incomes such as royalties in unique ways.

B. Cryptocurrencies

Cryptocurrency is a digital payment system that doesn't rely on banks or any other central agent to monitor transactions. It allows anyone anywhere to send and receive payments. Compared to regular currencies that are carried around and exchanged in the real world, cryptocurrencies exist purely as digital entries to an online database describing specific transactions. When you transfer cryptocurrency funds, the transactions are recorded in a public ledger called as blockchain.

The process by which Bitcoin and other cryptocurrencies come into circulation and the transactions are verified is known as mining. It requires a large decentralized networks of computers all over the world that verify and safeguard the blockchain that record crypto transactions. Since there is no single central authority such as a central, the distributed network of computers allows each user to create a copy of the database. For someone to hack into the database and tamper the records, would require them to take control a vast majority of the computers in the network which would be extremely hard to accomplish.

To summarize, in order to qualify as a cryptocurrency, it has to comprise of

1) A digital payment system
2) Built on a block chain ledger
3) Prima facie, it may appear that it's a fairly easy for anyone to create a cryptocurrency. This is partially right. There were a large number of Initial Coin Offerings (ICOs) of new cryptocurrencies when the price of Bitcoin hit $20000 in 2017. Not many of them, however managed to sustain their value. Since the value of the coins are driven by demand and supply, unless a sufficiently large number of users see value in trading/using a new cryptocurrency, it may not find many takers and would eventually drop in value.

Examples of cryptocurrencies

Leading cryptocurrencies include bitcoin and ethereum. In addition, Tether, USD Coin and BNB comprise of the top crypto currencies in terms of market capitalization (total value in circulation) as of August 2022 (as per Coin Gecko).

Application of crypto currencies

Crypto currencies and block chain, its underlying technology can have multiple applications in the real world. Most users see it as a store of value, and purchase it

from an investment point of view. Few producers and service providers based on their risk appetite view them as a medium of exchange, thereby accepting payments in cryptocurrencies for their goods and services. El Salvador became the first country that accepted bitcoin as real money. This allows citizens to use the cryptocurrency as a mode of payment for any transactions. However the volatility in value of crytocurrency makes it hard for the sellers to price, making wider acceptance still a distant possibility. While India continues to be largely a cash-based economy, UPI (Unified Payment Interface) has emerged as a popular mode of digital payment among smartphone users today with real-time settlements. Hence, the need for a cryptocurrency payment mechanism remains weak.

i) Banking and finance – Financial services remains the most obvious choice, where blockchain could reduce the cost and time of transaction by simplifying the settlement and clearance process. For example, settlement of a share trade can take upto 2 days on typical exchange. If this could be done via blockchain, the bank and stock ledgers of all parties could be adjusted to reflect transactions on real time basis.

ii) Smart contract - A smart contract is a set of conditions that can be built into the blockchain to operate a contractual agreement. When those conditions are met, the terms of the agreement are automatically carried out. An example of how such contracts could work are settlement insurance claim, where a patient expects to get reimbursed for his claims towards hospital payment swiftly. Hospitals can make the patient treatment data (entry date & time, mode of treatment) available to the patients alongwith and standard information (medicines, pricing, etc) to insurers on a real-time basis, who in turn can validate and share it with each other, and also

relay alerts in case of issues. This could help achieve a faster settlement of such claims and reduce frauds

iii) Supply chains - Suppliers can use blockchain to record the details of materials that they have purchased, including place of origin, labour, technology, etc. This would allow buyers to verify the authenticity of their products and verify claims such as "Organic," "Made in India," or "Fair Wages Paid."

iv) Voting systems – A reliable voting is the hallmark of modern democracy and corporate governance. Using blockchain in voting sytems can make votes nearly impossible to tamper with and the results to be declared immediately with limited human interventions. It was tested in the November 2018 midterm elections in West Virginia, which saw election fraud eliminated and a boost in voter turnout.

As developers continue to work on blockchain, new applications are expected to address different problems in real world.

Trading of Crypto currencies

Financial assets such as currencies, commodities, shares are traded on exchanges which enables price discovery and provides liquidity to investors holding the assets. These exchanges are regulated by SEBI (Securities & Exchange Board of India)

Cryptocurrencies on the other hand are also traded on privately operated exchanges, which typically operate as a platform where buyers and sellers meet to trade cryptocurrencies. This allows them to exchange their money for Bitcoin or any other digital currencies. Some of the more popular cryptocurrency exchanges are Coinbase, Gemini, and Kraken. Exchanges often have relatively low fees, but they have more complex interfaces.

As a result, these exchanges have been subject to hacking attempts in the past. For example, Mt. Gox which used to handle over 70% of all bitcoin transactions abruptly ceased operations amid revelations of its involvement in the loss/theft of hundreds of thousands of bitcoins. Bitfinex, which replaced Mt. Gox as the world's largest bitcoin exchange, lost $72 million in bitcoin in 2016.

Hence, one needs to be extremely cautious and understand all risks while trading in cryptocurrencies. Since these exchanges tend to be unregulated, they do not offer the investor protections that are available to investors on regulated exchanges.

A number of celebrities and social media influencers have endorsed cryptocurrencies and trading platforms. Given the significant rise in value of cryptocurrencies, most exchanges also allow trading of fractional coins such as 0.01 units. This has helped attract a large number of small investors who are willing to put in small amounts of money, thereby increasing the trade volumes and liquidity. If not fully understood, this could lead to a significantly loss of savings.

The need of the hour, therefore is for the regulator to promote investor education in cryptocurrencies and well-researched set of regulations based on best practices and learnings globally.

Valuation of Crypto currencies

Unlike most other financial assets, there is no underlying business or real asset from which cryptocurrencies they derive value. The volatility in cryptocurrencies is partly a result of the absence of the underlying asset to which one can peg an intrinsic value.

The value of cryptocurrencies, thus tends to be driven by demand and supply. Specific events can be triggers for the market sentiment to turn positive or negative. For instance, any restrictive action by central banks can put a downward pressure whereas a major corporate accepting payments can lead to a rise in cryptocurrencies.

In traditional exchanges, circuit breakers halt trading in case of a severe drop or rise in the price of a traded asset to prevent panic selling or frenzied buying. But in the absence of such mechanisms for cryptocurrencies, one can observe huge jumps in the value – even 90% or more in a single day. A crypto investor is fully exposed to market risks which he/she should undertake only when capable of assessing and handling it.

A. Non-fungible tokens (NFTs)

Non-fungible tokens are unique codes that use blockchain technology to certify the authenticity and ownership of a specific and unique digital object. NFTs are created through smart contracts that determine ownership and transfers of the assets. Each NFT is a one-off with one certified owner, even if the associated file can be copied. NFTs can represent ownership of unique items, including art and culture, collectibles, gaming, sports, among others. Because they hold a value primarily set by the market and demand, they can be bought and sold just like other physical types of art. NFTs' unique data makes it easy to verify and validate their ownership and the transfer of tokens between owners.

Let us take an example – Nike plans to launch a special edition of women's tennis shirts signed by Serena Williams. While anyone can create copies of the shirt, there will only be a limited number of originals in circulation. What NFT essentially does is to codify the ownership and uniqueness of each shirt into a token which can then be used verify the ownership & originality of each shirt and also transfer them.

Artists, musicians, athletes, celebrities, and others find NFTs attractive because they offer a new and unique way to sell their wares — including things like GIFs, memes, and tweets — directly to fans. Through smart contracts, NFTs also provide artists an opportunity to program in continued royalties if it is sold to a new owner.

Examples of NFTs

Given the nature of NFTs, which may represent a wide spectrum of items, there have been several NFTs that have emerged over the recent years. Examples of the NFTs of digital artwork collections include "CryptoPunks", a limited collection of 10,000 pixelated images and "Bored Ape Yacht Club", a troop of 10,000 primate cartoons. Popular gaming NFTs include Sorare, a fantasy football game and Axie Infinity, a fantasy battle game with NFTs attached to the characters where players are encouraged to trade for rare specimen.

Application of NFTs

NFTs have a wide range of application for multiple areas. Some of them have been listed below:

- Art market

  NFTs allow digitised art assets to have verifiable original ownership. For artists fighting against creative theft and plagiarism, its a huge advantage to enable them to monetize their businesses. NFTs for art constitute the largest used case among all applications.

  According to Sotheby's auction house, NFTs are "reshaping the landscape of digital art," thanks to their scarcity and uniqueness. It offers protection for work, posted online – especially since, it is quite easy to copy on circulate work posted online, which could affect the artist's earnings negatively.

- Using NFT for Real Estate

  Real estate ownership, enabled through NFTs can transform the property purchases. If details of all ownership and rights are recorded in blockchain, it can be instantly retrieved and verified by any third party seeking to trade, thus allowing a safe and simple mechanism for ownership transfer.

- NFTs for Collectibles

  Popular sport teams seeking to monetize their brand could create phyical and digital assets in the form of limited edition collectibles. For examples, NBA Hot Shot, replaced traditional trading cards with NFT digital video 'moments' of their star players. Even physical assets such as the bat used by Sachin Tendulkar during the 2011 Cricket World Cup can be tokenised and auctioned through NFTs.

  - Music monetization by NFTs

    Several music artists have been using NFTs to earn greater revenues for their content creations. With smart contracts, musicians can sell NFT tokens representing share in the future royalties on their music and in turn receive upfront investment from buyers. This can make them less dependent on traditional producers with whom they have limited negotiation rights. Artists like DJ Steve Aoki and Remixer 3LAU have been able to secure over $15 million through sale of NFTs.

Such new avenues of revenues could help attract more artists in the industry as well as help existing ones to receive fair share for their work, thereby allowing them to produce better content.

- Gaming with NFTs

  Traditional games are being launched on blockchain technology in a transformative way. This allows users greater control over in-game items like lands, characters, weapons, among others. This can manifest in three ways:

  - Create new characters
  - Purchase in-game items from the traded market
  - Earn rewards.

  All in-game items in the players' possession belong to the players, who can sell them anytime. The NFT qualities of scarcity and immutability that make them valuable to players, who can check the history, authenticity, and origin of their items.

- Exploring metaverse

  Metaverse is an artificial world created with augmented/virtual reality, where users can create their own avatar, interact with each other, share experiences and create places and objects similar to real life. A metaverse non-fungible token (NFT) enables internet users and metaverse participants to own the digital assets created within the metaverse. A metaverse NFT can be used to buy assets in the metaverse, such as digital objects or land. The ownership of the metaverse NFT is recorded on the blockchain network of that specific metaverse and represents a real value on the decentralized finance market.

Trading of NFTs

The process of buying and selling NFTs is slightly cumbersome and risky. Most NFTs are built on the Ethereum blockchain, which means they are purchased using ether (ETH). Ether can be bought through a crypto platform such as Coinbase or digital payment and stock trading apps, such as PayPal. A crypto wallet must be set up to pay for and receive NFTs. To make purchases, a wallet must be linked to an NFT marketplace such as OpenSea, Rarible, SuperRare or Axie Marketplace. Further, there is an added cost which comes in the form of each transaction fee, which pays for authentication through the blockchain

Of later, some new exchange platforms like Gemini, Kraken, and Coinbase have emerged that allow user to convert U.S dollars to ether, and indirectly into NFTs.

Valuation of NFTs

Unlike crypto currencies, NFTs can represent value in an underlying digital and real assets such as an artform, music, or gaming rewards. The value of such assets can vary based on user's perception of their value. For instance, if a classic music piece is of lesser interest among the music subscribers compared to jazz music, NFTs built on the former may trade lower in value.

Supply of underlying assets can also affect the value of the asset. A limited edition sports wear or an original art form may attract strong demand relative to supply compared to a gaming rewards or metaverse land for which the unlimited units can be created.

NFTs tend to be priced in cryptocurrency, making them vulnerable to the fluctuating cryptocurrency value as well as the shifting value of the NFT assets themselves. However, some NFTs whose value are linked to real assets may be drive by demand-supply factors, and pegged to intrinsic value of the underlying asset.

Still, trading in digital assets can often be sentiment driven, the value of NFTs can also fluctuate in a volatile manner. Similar to cryptocurrencies, in the absence of circuit breakers, large jumps can happen. Investors, should therefore conduct proper due diligences before entering into NFT trades.

C. Accounting for transactions in VDAs

Given the wide-ranging applications of virtual digital assets (VDAs), individuals or entities transacting in them can be categorized into the following buckets.:

i) For investment purposes – By far, this tends to be is the most common reason why people purchase (and sell) VDAs. Investments could further be classified as short-term (<12 months) and long-term (>=12 months). Some investors may also choose to speculate or trade, without

actually holding an real exposure to VDAs – including short sales, futures and options or intra day square off, whose primary objective is to gain by predicting short term pricing volatility in VDAs.

For this category, VDAs held as an asset would be treated as an investment. For those whom VDA trading is a full-time profession, it can be treated as an inventory

ii) As an alternative currency – By considering crypto-currencies as a store of value, any asset can be priced and traded in cryptos. For instance, Tesla chose to allow people to purchase its cars in bitcoins. This could become a reality if a vast majority of people were to be convinced about cryptocurrencies as a viable alternative to regular currency. Applications built on blockchain and smart contracts often price their service fees and commissions in crypto currencies.

For this category, VDAs held as an asset would be treated as a cash & cash equivalent or foreign currency

iii) Business built around VDAs – Several new-age businesses have been built around VDAs. These include entities involved in the creation, such as miners or content creators for NFTs. For exchanges or marketplaces that facilitate the trade of VDAs, their function is similar to that of a stock exchange. Any inventory they hold would be for the purpose of creating liquidity and only for eventual sale. Among the more advanced innovations, a few digital banks and financial institutions have emerged that accept deposits and lend in crypto-currencies or have built their payment and clearing sytems with block technology.

For this category, VDAs held as an asset would be treated as an inventory or intangible asset

The greater emphasis on procedural aspects rather than fundamental aspects of VDAs has resulted in a huge regulatory grey zone to the all actors. On one hand, anyone is free to transact in VDA on Indian or international exchanges and be liable to tax on it. On the other hand there is no clarity as to how is one required to account for them. Hence, one would need to rely on interpretations of individual accounting standards to determine the appropriate ways to account for transactions in VDAs.

I. *Treatment as investment*

AS-13 Investments governs assets held for capital appreciation. Based on the intended holding periods, the investor would need to classify VDAs as either current, if it is to be sold within one year or long-term investment if beyond. Typically, current investments are carried at lower of cost or fair market value and long-term investments at cost.

Let us take the example of an investor, ABC who enters into the following trades during the year

Apr 10 – purchase of 10 BTC for Rs. 3 Cr

May 31 – purchase of 50 Ether for Rs. 50 lakhs

Sep 30 – spends 30 Ether to purchase 5 digital Monalisa NFTs – amounting to Rs. 40 lakhs in total

Dec 31 – sells 5 BTC for Rs. 1.25 Cr

March 1 – purchases 20 Ether at Rs. 20 lakhs

Closing valuation as of March 31:

5 BTC – INR 1.75 Cr.

40 Ether – INR 30 lakhs

5 digital Monalisa NFTs – INR 34 lakhs

He intends to sell/trade in the crypto currencies during the next 12 months and hold the Monalisa NFTs for the long term. Under AS-13, one would account for the investment as follows:

	Credit	Debit
Apr 10 BTC Investment A/C	Rs. 3 Cr	
To Bank A/C		Rs. 3 Cr
(Being purchase of BTC investments)		
May 31 Ether Investment A/C	Rs. 50 lakhs	
To Bank A/C		Rs. 50 lakhs
(Being purchase of Ether investments)		

Sep 30 Monalisa NFT Investment A/C   Rs. 40 lakhs

To Ether Investment A/C   Rs. 30 lakhs

 (Rs. 50 lakhs * 30/50)

 To Profit on sale of Investment A/C   Rs. 10 lakhs

(Being purchase of Monalisa NFTs with Ether and profit realized on exchange of Ether)

Dec 31 Bank A/C   Rs. 1.25 Cr

Loss on Sale of Investment A/C   Rs. 0.25 Cr

To BTC Investment A/C   Rs. 1.50 Cr

(Being sale of BTC Investment at a profit)

Mar 1 Ether Investment A/C   Rs. 20 lakhs

To Bank A/C   Rs. 20 lakhs

(Being purchase of Ether investments)

Mar 31 Unrealised loss A/C   Rs. 10 lakhs

To Ether Investment A/C   Rs. 10 lakhs

(Being unrealised loss booked on closing value of Ether investments)

BTC and Ether, being current assets, would be valued at lower of cost and fair value. The closing value of BTC is above the value of the purchase price, and hence no adjustment needs to be made. Since Ether's closing value is less than cost, an adjustment for unrealised Loss is made.

While Monalisa NFT is valued lower than cost as of March 31, since it is a long term investment, it can be shown at cost. Even if it were higher than Rs. 40 lakhs, say Rs. 50 or Rs. 100 lakhs, it would continue

to be shown at cost. Only if there has been a permanent loss of value, for example, the original art work is damaged or destroyed, that has led to a loss of value rather than due to market fluctuation, a loss may be booked on the NFT.

II. Treatment as cash & cash equivalent/foreign currency

In the Indian regulatory context, VDAs have not been recognized by the RBI for use as a "currency" or "legal tender". Further, the RBI has issued stringent directives to all regulated entities to carry out due diligence in line with regulations governing Know Your Customer (KYC), Anti-Money Laundering (AML), Combating of Financing of Terrorism (CFT, Prevention of Money Laundering Act, (PMLA), 2002, and Foreign Exchange Management Act (FEMA) for overseas remittances." This makes the usage of crypto-currencies for regular business purpose an extremely cumbersome task.

Further from a store of value, the fluctuations in the value of crypto-currency makes adoption of crypto-currencies as a mainstream currency still a distant option. The pricing of products/services would need to be frequently revised to cope up with the fluctuations in crypto-currency value. Hence, even from a practical standpoint, conducting business in cryptocurrencies would be challenging.

Despite the challenges highlighted, if one were to choose to transact a part of their overall business (sale/purchase) in cryptocurrencies, in the absence of guidelines that allow treatment of crypto-currencies as a foreign currency, it would be prudent to avoid such a classification and related disclosures. Instead, one could apply the fair value of VDA in the reporting currency at the time of booking to determine the transaction value and any net balance of cryptocurrency remaining at the end of the year can be valued as current investments.

Let us take the example of PQR, a business, who imports porcelian pots from China and exports them to Estonia in BTC. He has an opening balance of 100 BTC, of which he uses 80 BTC to buy 10 pots on July 1 and sell them for 100 BTC on Jan 1. The rates of BTC at the time of opening, purchase, sale and year-end were Rs. 10 lakhs, Rs. 11 lakhs, Rs. 9 lakhs and Rs. 12 lakhs respectively. The entries for the purchase and sale can thus be recorded as follows:

Debit	Credit	Debit	Credit	Debit	Credit
Jul 1 Purchases A/C Rs. 880 lakhs		Jul 1 Purchases A/C Rs. 880 lakhs		Jul 1 Purchases A/C Rs. 880 lakhs	
	To BTC Investment A/C Rs. 800 lakhs		To BTC Investment A/C Rs. 800 lakhs		To BTC Investment A/C Rs. 800 lakhs
	(80BTC * Rs.10 lakhs)		(80BTC * Rs.10 lakhs)		(80BTC * Rs.10 lakhs)
	To Profit on Sale of Investment A/C Rs. 80 lakhs		To Profit on Sale of Investment A/C Rs. 80 lakhs		To Profit on Sale of Investment A/C Rs. 80 lakhs

(Being purchase of Porcelian Pot with BTC and profit realised on exchange of BTCs)

Jan 1 BTC Investment A/C   Rs. 900 lakhs

 To Sales A/C   Rs. 900lakhs

(100 BTC*Rs. 9 lakhs)

(Being sale of Porcelian Pot for BTC)

As the closing value of BTC i.e. 120 BTC *Rs. 12 lakhs = Rs. 1,440 lakhs is greater than the cost of the BTC investments i.e.   Rs. 900 lakhs + 20 *Rs.10 lakhs = Rs. 1100 lakhs, there is an unrealized profit of Rs. 340 lakhs. Based on the prescribed valuation of current investments, being lower of cost and market value, a conservative valuation on cost basis is adopted.

The approach recommended above seeks to simplify business transactions in cryptocurrency. AS-11 which governs the effect of changes in foreign exchange rates prescribes that monetary items must be reported in reporting currency at the value which is expected to be realized from as at the balance

sheet date. In the above case, this would have resulted in booking of unrealized gains of Rs. 340 lakhs on the BTC investment. However, a conservative approach followed for current investments may be more prudent, especially given the volatility associated with crypto-currency valuations.

III. Treatment as inventory

For entities whose core businesses are built around VDAs, the digital assets would not only be an investment but could be inventories too. Examples of such entites include exchanges, who create liquidity for investors, content creators who issue NFTs and miners who invest significant resources to mine cryptocurrencies.

For such entities, as per AS 2, cost of inventories would include any purchase costs, costs directly attributable to purchase, and costs of conversion to complete materials into finished goods.

Let us take the example of a music company, which has built a large collection of records, which it has now digitised and tokenised for sale to public investor. Since these NFT tokens are held for sale in ordinary course of business, they would qualify to be treated as inventory. For determining inventory costs, one can capture all costs attributable directly towards the creation of such NFTs, including but not limited to cost incurred in producing and recording the music, technology costs in digitizing the music and tokenising the digital records, legal costs in creating smart contracts and financial costs incurred in making the tokens available for sale on an exchange.

An illustrative entry for booking the inventory cost would be as follows:

	Debit	Credit
Mar 31. Cost of production A/C	Rs. 100 lakhs	
To Recording Costs A/C		Rs. 55 lakhs
To Legal Costs A/C		Rs. 10 lakhs

		Debit	Credit

To Technology Costs A/C   Rs. 25 lakhs

To Financial Costs A/C   Rs. 10 lakhs

(Being various costs incurred in production of music NFTs booked)

If only 80% of underlying tokens are sold at the end of the financial year for Rs. 120 Cr., the company may book the following transactions

	Debit	Credit
Mar 31. Bank A/C	Rs. 120 lakhs	
To Sales A/C		Rs. 120 lakhs

(Being sales of music NFTs booked)

	Debit	Credit
Mar 31. Cost of goods sold A/C	Rs. 80 lakhs	
Closing Stock of music NFTs A/C.	Rs. 20 lakhs	
To Cost of Production A/C		Rs. 100 lakhs

(Being cost of production of music NFTs allocated towards costs of goods sold and closing stock)

Further, under AS 2, inventories should be measured at the lower of cost and net realisable value. Net realisable value ('NRV') is the estimated selling price in the ordinary course of business less the estimated costs of completion and the estimated costs necessary to make the sale. However, financial instruments held as stock in trade are valued at net realisable value.

In the above case, the music company may choose to value the NFTs at a NRV on March 31, resulting in an unrealised profit. The entry for the same would be:

	Debit	Credit
Mar 31. Closing Stock of music NFTs A/C.		Rs. 10 lakhs
To Unrealised Profit on closing stock A/C		Rs. 10 lakhs

(Being unrealized profit booked on valuation of closing stock based on NRV)

However a conservative approach would be advisable, specially if there is significant volatility in the NRV of the NFTs. This would mean, valuing the closing stock of NFTs, at lower of cost and NRV. If applied in the above case, no unrealised gains would be booked on the closing stock and only unrealised losses would be booked if the NRV of the NFTs were to fall below cost.

IV. Treatment as intangible assets

While VDAs are inherently intangible in nature, for qualifying as an intangible asset under Accounting Standard (AS) 26 "Intangible Assets", a resource can must meets following 2 conditions:

1. Asset should be controlled by an enterprise as a result of past event.

2. Due to such asset future economic benefit are expected to flow into the enterprise.

Since traded VDAs have separate realizable values, the treatment for them would be largely covered under investments or inventory discussed above. Excluding those, any investment made by businesses in digital assets for long term business uses may qualify as intangible assets.

However, to demonstrate future economic benefits to flow to the enterprise would require a strong business case in the form of increased incomes or cost savings. Examples could be banks/financial

institutions that build blockchain systems to decentralize their accounting operations. Similarly, acquisition of Intellectual Property (IP) created through NFTs or smart contracts that could result in future royalties that are core to business, provided they can be separately identified and quantified.

The accounting treatment for intangible assets is fairly straightforward. Total costs that are incurred with respect to such acquisition would be capitalized. Each year, a sum, no lesser than $1/10^{th}$ of the total value capitalized shall be amortized.

Let us take the example of business PQR that has acquired digital rights to IPL for 5 years for INR 5,000 crores which it has tokenized in the form of smart contracts, which allows it to receive 10% of ad revenues for each match view exceeding 10 minutes.

	Debit	Credit
Year 0 IPL Digital Rights A/C	Rs. 5000 Cr.	
To Bank A/C		Rs. 5,000 Cr.

(Being purchase of IPL Digital rights from BCCI)

	Debit	Credit
Mar 31 Bank A/C	Rs. 100 Cr.	
To Ad revenues A/C		Rs. 100 Cr.

(Being ad revenues booked for the first season of IPL)

	Debit	Credit
Mar 31 Amortization A/C	Rs. 1000 Cr.	
To IPL Digital Rights A/C		Rs. 1000 Cr.

(Being ad revenues booked for the first season of IPL)

Accounting issues

Accounting for virtual digital assets is still in nascent stages, and hence alternative approaches may by considered practitioners based on circumstances. The indicative accounting treatment suggested in the above section is intended to serve as a guiding mechanism rather than as a rule book. Management and auditors are advised to apply reasonable judgement after having duly considered applicable facts.

One such instance of dissonance, could be entities involved in the mining of crypto currency who may incur a series of capital and operating expenditure, in order to eventually earn revenues from the sale of crypto currencies, the timing and quantum are often uncertain to predict. Hence, applying the matching principle of revenues to expenses can be challenging in such a scenario.

Expert guidance on the same indicates that the setup of mining capacity would qualify for recognition as assets due to the possibility of future economic benefits. However, there might be annual impairment analysis that needs to be done or impairments caused by trigger events such as crypto market crashes that need to be considered. Since most crypto mining is fundamentally taking place in pooled systems, right now. So, miners we will have regular revenues from these mining pools and operating costs can be booked against them (in line with the 'Matching' principle).

Another problem could arise for entities such as gaming or music who have multiple revenues streams, both NFT and non-NFTs. Here, if there are shared costs incurred such as technology costs or content costs, which may not be directly attributable to revenues from sale of NFTs, ascertaining the cost of sales could become problematic.

As per expert guidance, the shared costs would need to be allocated based on 'values' of revenues from both streams, NFT and non-NFT. Alternatively, if it is difficult to recognize NFT revenues on a consistent basis due to the level of subjectivity involved in determining the completion of the 'utility' aspect of NFT performance obligations, they could also be allocated on a physical basis (for example, using non-financial metrics that determine the level of benefit generated by creating NFT content vis-à-vis non-NFT content). However, this allocation would be inefficient compared to the former method.

Until further clarity is offered by the Accounting Standard Board, it is advisable for entities to maintain detailed cost records so as to precisely attribute costs relevant to VDAs and minimize the use of discretion

D. **Taxation of VDAs**

i) **Direct taxes**

Income from transfer of VDAs

The Finance Act 2022, introduced a new section 115BBH for taxation of income from transfer of virtual digital assets. This section would be effective from April 1, 2022 i.e. Assessment Year 2023-24 onwards.

As per section 115BBH, any profits arising on sale of virtual digital assets are taxable at flat 30% (excluding surcharge and cess). For the calculation of profit, only cost of acquisition is allowed as a deduction against sale proceeds. Further, it has been clarified that loss arising from sale of one VDA cannot be set of against profit arising from sale of another VDA.

Illustration: During FY 2022-23, assessee Mr. A purchased 100 gaming NFTs for Rs. 10,000 each for which 80 were sold during the year at Rs. 12,000. He also purchased 40 dogecoins for Rs. 5000 each, of which 30 were sold during the year for Rs. 4000.

Computation of taxable income in the above example would be as follows:

	Gaming NFT	Dogecoin
Units sold	80	30
Sale price	Rs. 12,000	Rs. 4,000
Total Sale consideration (A)	Rs. 960,000	Rs. 120,000
Purchase price	Rs. 10,000	Rs. 5,000
Total Purchase cost (B)	Rs. 800,000	Rs. 150,000
Net Profit / (Loss) (A-B)	Rs. 160,000	(Rs. 30,000)
Taxable income u/s 115 BBH	Rs. 160,000	-

Further, any loss from sale of VDA, such as Rs. 30,000 loss on Dogecoins in the above example shall

1. not be set off against income from any other heads such as business/profession, house property, salary or capital gains
2. not be carried forward to succeeding A.Y.s even for future gains arising for sale of dogecoins or any other VDAs.

Gift of VDAs

Section 56(2)(x) of the Income Tax Act ('IT Act') provides that where **any person receives any property for a consideration less than its fair market value,** the fair value as exceeding the consideration would be taxable in the hands of the person receiving such property.

An amendment has been proposed in section 56(2)(x), wherein the definition of property has been expanded to include virtual digital assets.

Thus, if a person were to transfer a VDA to another person without any consideration or less than fair market value, the recipient of such VDA shall be liable to pay tax on the difference between the fair market value and the consideration paid, provided the difference exceeds fiftythousandrupees.

Tax deduction at source under section 194S

To have a check on the transactions of virtual digital asset, a new section 194S has been proposed in Finance Act 2022. As per section 194S, any person responsible for paying any consideration for transfer of virtual digital asset to a resident starting July 1, 2022, shall deduct TDS at the rate of 1 percent. TDS shall be deducted at the time of credit of such sum to the account of the resident or at the time of payment, whichever is earlier.

However, no tax is to be deducted if the consideration is payable by specified person to a resident and the aggregate value of such consideration does not exceed Rs. 50,000 during the financial year. If the consideration is payable by other than a specified person, no tax is to be deducted if the aggregate value of consideration does not exceed Rs. 10,000 during the financial year. Here specified person means a person being an individual or HUF, whose total sales, receipts or turnover form the business does not exceed Rs. 1 crore and in case of profession it does not exceed Rs. 50 lakhs during the financial

year immediately preceding the financial year in which such virtual digital asset is transferred. In case individual or HUF does not have any business or profession income then such individual or HUF shall also be specified person under section 194S of income tax Act.

TDS payment needs to made electronically within 40 days from end of the month in which TDS is deducted using Form 26QE. The deductor must issue Form 16E to the payee within 15 days from the due for filing Form 26QE.

Direct taxation issues

While the Finance Act 2022, has provided much needed clarity in term of direct taxation of VDAs, some areas still cry for attention. While investors engaged in purchase/sale of VDAs through exchanges and marketplaces will be able to estimate the precise cost of acquisition, a lot of trades tend to be swap in nature i.e. exchange of an NFT for a crypto currency. This could be treated as a transfer under section 115BBC, although there is no liquidity created for the investor.

Another contentious area pertains to entities that are involved in the minting of tokens or mining of coins, for whom the cost of acquisition, maybe open to interpretation. Detailed guidelines by the IT Department in this regard can help avoid disputes and enable a transparent tax regime.

ii) Indirect taxes

Under GST, supply of currency or security does not constitute to be a supply of goods and services. However, in the absence of such a categorization being permitted for cryptocurrencies or NFTs by RBI or SEBI, once could argue that VDAs are intangible assets, and essentially in the nature of goods and liable to GST. This could make VDAs ineligible for GST exemption available for currency and security. On the other hand, several countries such as UK, Norway, Australia, Switzerland have set a precedent wherein cryptocurrencies have been exempted from GST/VAT. In the absence of such clarity provided in our indirect tax-laws, it could be left open to interpretation by tax authorities, and lead to disputes. As it has been done in the case of direct taxes, the Finance Ministry should plan to notify a similar set of rules on indirect taxes on VDAs soon.

E. Recent Developments - Digital Rupee (e₹-R)

The Reserve Bank of India (RBI) announced the launch of the first pilot for retail digital Rupee (e₹-R), a form of Central Bank Digital Currency (CBDC) on December 01, 2022. The pilot is aimed to test the strength of the entire process of CBDC creation, distribution and retail usage in real time.

What is CBDC and how is it different from other digital currencies?

RBI defines CBDC as the legal tender issued by a central bank in a digital form. It is the same as a sovereign currency (i.e. rupee) and is exchangeable one-to-one at par (1:1) with the rupee. This means, any person offering this as a payment mode can legally enforce it. While money in digital form is predominant in India—for example in bank accounts recorded as a liability of the bank—a CBDC would differ from existing money in bank accounts because a CBDC would be a liability of the RBI. Like cash, it will not earn any interest and can be converted to other forms of money, like deposits with banks. While CBDCs would offer features of physical cash like trust, safety and settlement finality, cryptocurrencies on the other hand are privately issued and is not covered by a sovereign guarantee. This means a retailer who does not recognise it can choose to refuse it as a payment mode.

What is the need for e₹-R ?

The key motivations stated by RBI for launching e₹-R have been:

❖ Reduction in operational costs involved in physical cash management,

❖ Bringing resilience, efficiency, and innovation in payments system and settlement system

❖ Boosting innovation in cross-border payments space: RBI will sometimes deal with different networks for each major currency transaction. CBDCs can help RBI to develop an international settlement platform through which cross-border payments can be done in real-time between the different countries 24X7, with the foreign exchange leg settled in real time.

❖ Providing public with uses that any private virtual currencies like cryptocurrencies can provide, without the associated risks.

❖ An offline feature in CBDC would also be beneficial in remote locations when electrical power or mobile network is not available

❖ Fostering financial inclusion: The government can use e₹-R to provide digital tokens to targeted beneficiaries to access welfare services like health, ration, etc.

❖ Programmability: The programmability feature can have tremendous implications for monetary policy transmission as tokens could have an expiry date, by which they would need to be spent,

thus leading to consumption. The programmability of tokens can be achieved using smart contracts (eg: Business rules to verify token is being used correctly).

How does e₹-R work?

The RBI has launched a pilot at select locations in closed user group (CUG) comprising participating customers and merchants. The e₹-R would be in the form of a digital token that represents legal tender. It would be issued in the same denominations that paper currency and coins are currently issued. At the pilot stage, these would be distributed through intermediaries, i.e., banks. Users will be able to transact with e₹-R through a digital wallet offered by the participating banks and stored on mobile phones / devices. Transactions can be both Person to Person (P2P) and Person to Merchant (P2M). Payments to merchants can be made using QR codes displayed at merchant locations.

How is e₹-R different from UPI?

The e₹-R is similar to a physical currency than to UPI. Just as people can use physical currency by either choosing to store in their wallets or hand it to someone else without the intermediation of a bank, e₹-R allows a user to transfer money from one entity to other without involving the bank for payment. While there is a requirement to submit PAN for high-value transactions, like it is with physical currency, the transactions between wallets are meant to be anonymous and not available with banks.

F. <u>Conclusion</u>

Since they first came into picture, VDAs have captured the attention of investors, regulators and innovators all over the world. Even among the various stakeholders, opinion is divided whether it can emerge as a serious financial assets class. However, the fact remains even as we speak that VDAs continue to trade in billions of dollars each day and cryptocurrencies accepted as legal tender in at least two countries (El Salvador and Central African Republic). Even if it doesn't, several central banks are working on launching their own digital currencies while banks and other financial institutions are upgrading their systems with blockchain technologies.

As Chartered Accountants, while accounting and taxation aspects of VDAs will have direct impact on us, it is also important for us to be aware of the underlying working of blockchain mechanism and trading platforms in order to ensure appropriate financial reporting and adequacy of internal controls.

From an investment/trading perspective, VDAs have seen significant volatility since inception and are face the risk of being curbed by regulators. While the clarity provided in the latest Finance Bill, 2022 is a welcome step towards a transparent regulatory regime, there are still a lot of areas which remains unaddressed. As financial advisors to our clients, who may be planning to transact in VDAs, we must make them aware of all potential risks and insist that they do a thorough due diligence before they make a trade. But as professionals, it is best that we refrain from taking a stance either for or against VDAs, which may be construed as an investment advice and instead focus on aspects core to our expertise.

G. References and additional reading

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About the Author

CA. Aadit Devanand is a financial consultant based in Udupi with over 14 years of experience of working in financial advisory, impact investing, entrepreneurship, audit and assurance. He started his career as an articled assistance with Deloitte Haskins & Sells, Mumbai. As an investment banking professional at Bank of America-Merrill Lynch, he worked on execution of some landmark capital markets and M&A deals. He also founded Altflo, India's first deal management and portfolio intelligence platform for private companies. At KOIS – a European impact finance firm, he has led the transaction diligence for their investments in Asia and Europe and has worked on the structuring and placement of innovative finance instruments such as impact bonds, guarantees and pay-for-success.

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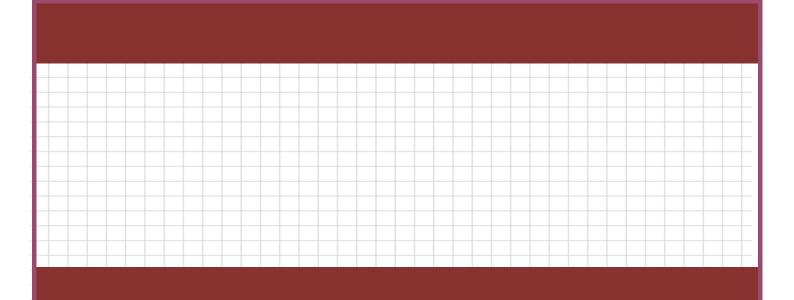
Aadit qualified as a Chartered Accountant in 2011, having secured ranks at all three levels of CA examinations. After completing his CA, he did his Post-Graduate Diploma in Management from Indian Institute of Management, Bangalore, where he was awarded the Siddhartha Padam Award in finance and Sir Ratan Tata scholarship. He has also completed all three levels of CFA (USA).

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