

Title: An Introductory Outlook: What Are The  
Prospective And Current Issues With Regards  
To Accounting For Cryptocurrency?



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Declaration:

I declare that all the work in this thesis is entirely my own unless the word that are placed between inverted commas and are referenced with the original source. I understand the nature of plagiarism, and I am aware of the School's policy on this. I certify that this dissertation reports original work by me during my academic research. Furthermore, texts cited are reference as such, and placed in the reference section.

Signed: *NRamrakhiani* (Nikhita Ramrakhiani)

Date: 20/08/2018

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## Abstract:

The purpose of this thesis is to examine, scrutinize and deduce, **The current issues on accounting for cryptocurrency,** to obtain views of accounting and finance professionals on current issues on accounting for cryptocurrencies. The title of the thesis was chosen to point out to a reader that there are logical and technical issues that needs clarification regarding accounting for cryptocurrencies. The thesis also includes a brief summary of blockchain, just to understand the basics and evaluate the appropriateness of cryptocurrencies as they are derived from the process of blockchain.

This thesis advises managers to examine and better understand the key features of cryptocurrencies that are relevant to their business as so to be able to correctly account for them as cryptocurrencies have a quasi-asset and quasi-currency feature and also can be an inventory to some business models. In addition, it states that the preparers of financial statements should evaluate the appropriateness of their accounting policies for cryptocurrencies and validate their disclosures about cryptocurrencies are material and sufficiently transparent to users of financial statements.

This thesis warrants for standard- setters to undertake research of this area so as to provide guidance and clarity in accounting for the cryptocurrencies in areas such as asset classification, revenue recognition, valuation and disclosures. They must also ensure that the accounting guidance for cryptocurrencies is relevant and useful to the preparers of financial statements and the users of financial statements.

The research of the thesis will focus on key accounting themes relevant to cryptocurrencies. Although the literature on the topic of the thesis available, is limited and narrow. Accounting standards are studied in depth in order to deduct

their appropriateness on cryptocurrencies for the literature review. Further seven interviews were conducted with accounting professionals to obtain their views on the accounting themes for cryptocurrencies.

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## Chapter 1: Introduction

### 1.1. Overview

Cryptocurrency is a type of virtual/digital currency which uses cryptography for security and is one of the many new developments in the technological advancements (Monterio, 2014). One of the features of cryptocurrencies is their use as a digital means of exchange or in simpler words they are digital currencies that are used for buying and selling of goods and services with the payment being made via the crypto-wallet (online- electronically) (Monterio, 2014).

Differentiating cryptocurrencies from other fiat currencies or gold, they are not backed by any regulatory bodies (Sontakke and Ghaisas, 2017). Blockchain came in the lime light in 2017, in spite of having existed for right around 10 years earlier. Cryptographic forms of money have become an important area of research in recent years, even among the most learned speculators. While Bitcoin and Ethereum are the most well-known cryptocurrencies, there are right now in excess of 1,600 distinctive digital currencies (Murray, 2018).

This research directly examines the issues organizations experience when dealing with accounting for cryptocurrencies, particularly how they are reflected using GAAP models. This can be exceptionally tedious and require over-employment of bookkeeping staff to benefit this need (Murray, 2018). Likewise, evaluating methods still require either composed affirmation of year-end accounts receivables or physical review of solicitations or consequent instalments to guarantee that adjusts exist (Ram Asheer, 2015). With blockchain/cryptocurrency innovation, the need to inspect physical reports will be supplanted by downloading the exchange history from the blockchain (Murray, 2018). As outlined above, exchanges on the blockchain are permanent and can never be changed once approved. To demonstrate that organization A owes organization B, an evaluator can basically look on the blockchain and have full solace in realizing that the sum owed to organization B is

legitimate and finish, it won't be required to physically verify transactions and obtain evidence of transactions as it will be available on the block (Carlozo, 2017).

The thesis will primarily focus on the treatment of cryptocurrencies in financial statements, particularly from the accounting perspective, this will be done with the help of relevant study of accounting standards and other academic papers and journals. The thesis will include the views of accounting and finance professionals on the treatment of cryptocurrencies in the context of financial reporting.

## 1.2. Definition of the Problem

Cryptocurrencies are now being used to undertake commercial transactions in the e-commerce world and are also being considered as investment options (*The Fintech Revolution Is Just Beginning*, 2016). Therefore, it will need to be accounted for and there will need to be a basis to value cryptocurrencies for the purpose of reporting them in the financial statements. Although there is a large body of research on e-commerce, there is very little formal academic research on the accounting implications of cryptocurrency including considerations on how cryptocurrencies should be reflected in financial statements (Ram Asheer, 2015). Cryptocurrency, being a new form of technological advancement in the field of finance, studying its impact on various professions and professionals is important (Boomer, 2016). Despite gaining popularity, there are still very few works analysing the accounting treatment of Cryptocurrency. There are significant questions yet to be answered around the accounting issues of the cryptocurrency. The accounting literature on cryptocurrency is very thin and many of these research focus on the technological issues. So far, there are only a few accounting models/comparisons developed to examine the accounting for this new payment system. This research will focus on the effects of cryptocurrencies on accounting as a profession and accountants as professionals and not about the blockchain technology. This research will focus on the accounting standards and how cryptocurrency could be accounted for in the financial statements of a commercial enterprise.

### 1.3. Aims and Objectives of the Research

The research focuses on:

1. The views of accountants and other finance professionals on the *current* impact of cryptocurrencies on financial records and financial accounting;
2. The views of accountants and other finance professionals on the *future* impact of cryptocurrencies on financial records and financial accounting;
3. The views of accountants and other finance professionals on the appropriate accounting treatment of cryptocurrency;
4. The views of accountants and other finance professionals on whether cryptocurrencies require their own accounting standards;
5. To analyse characteristics of cryptocurrency with an aim to offer a normative perspective on financial reporting of Cryptocurrency;
6. The views of accountants and finance professionals about the asset classification of cryptocurrencies and
7. To evaluate the need of having a new set of standards to incorporate the growing use of virtual currency.

### 1.4. Major Contributions of the Research

The first cryptocurrency, Bitcoin has since its creation in 2009 by Satoshi Nakamoto, has experienced multiple peaks and successive ups and downs. The question here is, whether it is a safe investment or it is a prospective speculative trap. Can it be considered as a short term hedge or a poor investment option (Kam, 2017). There are different investment asset classes like equity stocks, bonds, commodities, foreign exchange and real estate, they all derive their intrinsic value from fundamental

valuations. Digital currencies/ cryptocurrencies are a developing asset class and assessing their intrinsic values might be a troublesome area (Sompolinsky and Zohar, 2018).

Present day accounting is a double entry framework – an arrangement of recordkeeping that enables firms and organizations to keep records of what it owes and what it owns in a particular span of time. Triple-entry accounting system alludes to the possibility that exchanges on the blockchain are basically accounting entries that are secured by using the cryptography technology that also prevents tampering and nearly gives results of real-time auditing (Kiviat, 2015).

Cryptocurrencies have drawn a substantial attention from investors, advisors, market regulators and most importantly accountants (Boomer, 2016). The questions about cryptocurrency's asset classification are frequently and heavily asked which indicates the prime importance of talking about the accounting phenomenon of cryptocurrencies. This research will specifically examine the accounting related impact of cryptocurrency. This study aims to capture expert opinions on including cryptocurrency in financial statements and provide a view on the correct treatment of the same.

#### 1.5. Relevance of the Research

The questions of accounting, valuation and classification of the cryptocurrency would make a significant contribution to the research on the practicality of implementation of accounting concepts in reference to cryptocurrency. These questions are crucial to the field of accounting as the usage of cryptocurrency in the e-commerce market is growing rapidly (Ram Asheer, 2015). This Research will focus on the impact of cryptocurrency, primarily on its impact on accounting and how it will be reflected in financial statements. Thus, this research will be helpful to the accounting profession. It will briefly introduce blockchain technology, although this limited explanation of blockchain is a means to an end i.e. it is the basis of cryptocurrency but the research

is not about blockchain as a technology but it is about what could be the impact of virtual currency on accounting. The research will also attempt to identify treatments in the traditional accounting methods that currently do not incorporate characteristics of cryptocurrency and the research will consider the need of stand-alone accounting standard for cryptocurrencies. The research is not designed in any way to make contribution in the area of Blockchain. Accounting aspect of cryptocurrency is an area where much valuable information is not available and therefore, this research seeks to add value in the same field.

### 1.6. Definitions

A number of accounting terms are used through-out the dissertation and unless otherwise stated, they should be interpreted as follows;

- a) Cash is defined as, "Cash comprises of cash in hand and demand deposits." Additionally (foreign) "currency is a financial asset because it represents the medium of exchange."
- b) Cash equivalent is defined as, "short-term, highly liquid investment that can be readily converted into known amounts of cash and which are subject to an insignificant risk of changes in value."

In IAS 32, The Standard defines a financial asset as being "any asset that is:

- 1. cash
- 2. an equity instrument of another entity
- 3. a contractual right:
  - i. to receive cash or another financial asset from another entity; or
  - ii. to exchange financial assets or financial liabilities with another entity under conditions that are potentially favourable to the entity

4. a contract that will or may be settled in the entity's own equity instruments and is:
  - i. a non-derivative for which the entity is or may be obliged to receive a variable number of the entity's own equity instruments; or
  - ii. a derivative that will or may be settled other than by the exchange of a fixed amount of cash or another financial asset for a fixed number of the entity's own equity instruments..."
- c) The definition of investment property under IAS 40, "Property (land or building – or a part of a building- or both) held by the owner or by the lessee under a finance lease to earn rentals or for capital appreciation or both, rather than for: use in the production or supply of goods and services or for administrative purposes; or sale in the ordinary course of business."
- d) An intangible asset is defined in IAS 38.8 as "an identifiable non-monetary asset without physical substance."
- e) The definition of monetary assets as in IAS 38.8 being "assets to be received in fixed or determinable amounts of money."
- f) IFRS 13 Fair Value Measurement defines an active market as a "market in which transactions for the asset or liability take place with sufficient frequency and volume to provide pricing information on an ongoing basis."
- g) IAS 2.5 defines commodity broker-traders as "those who buy or sell commodities for others or on their own account, for the purpose of selling in the near future and generating a profit from fluctuations in price."
- h) Block Chain: An electronic log of all Bitcoin transactions (Woo et al, 2013).
- i) Cryptography: The science of altering and/or transmitting data so that only the intended recipient can read it (Kessler, 2014).
- j) Fiat money: Money that is regarded as legal tender by a central authority, and is backed by the assurances of that authority (Christopher, 2014).

- k) Mining: The process by which mathematical puzzles are solved through the use of computing power in order to add Bitcoin transactions to the block chain (Shcherbak, 2014).
- l) Neoliberalism: In accounting, this represents a shift towards reporting that is focused on faithful representation, and less on reliability (Ravenscroft and Williams, 2009).
- m) Specie money Money that is backed by a valuable commodity, such as gold or other precious metals (Christopher, 2014).
- n) Stewardship In accounting, this represents the idea that reporting should ensure accountability (Murphy et al, 2012).

## Chapter 2: Literature Review:

### 2.1. Introduction:

#### What is a Cryptocurrency?

Fintech (or financial technology) is one of the current driving force behind innovations in the financial services industry. One of the most debated innovations is cryptocurrency, or digital currency, which uses blockchain technology to make a direct electronic payment between two people possible. This transaction is executed without going through a third party (like a bank) or expensive intermediaries which might result in cost savings (Labbé, Crabb and Lai, 2018). This section briefly reviews some of their key features and its popularity.

Cryptocurrency is virtual money with zero intrinsic value issued by a computer code in electronic portfolios, which is not convertible into anything and does not have the backing of any central banks or any government (Murray, 2018). The value of a cryptocurrency is neither determined by a convertible tangible asset (such as gold) nor a fiat currency (such as dollar), it is determined by the interplay of its supply and demand (Low and Teo, 2017).

This nascent crypto-currency can fulfil various business functions. It can facilitate business transactions from person to person worldwide without any intermediaries. It can not only reduce trade barriers but also costs, and increase productivity (Phillips and Gorse, 2018). Nevertheless, the usefulness of cryptocurrency remains uncertain because of its sizeable price volatility, the inelastic nature of the money supply coded by mathematic formula and the lack of legal security (Kiviat, 2015). Cryptocurrency is in a nascent stage and is closely associated to multiple risks stemming from its extra volatility and its speculative nature.

The Cryptocurrency, which can appear to be identical to traditional currencies, though has major differences when compared to the "fiat" currencies. The

cryptocurrencies are not regulated by central banks - .i.e. it is not printed or issued by a particular government or a regulator, it is mined using a technology. It has started to gain familiarity as a means of settling e-commerce transactions and lacks a backing of goods and services and is also said to have no intrinsic value (Ram Asheer, 2015).

Although there is a large body of research on e-commerce, there is barely any formal academic research on the accounting implications of cryptocurrency including research on how cryptocurrencies are being reflected in financial statements (Ram Asheer, 2015). Cryptocurrency is one of newest form of technological advancement in the field of finance, studying its impact on various professions and professionals is important (Boomer, 2016).

#### What are the features and scope of cryptocurrency?

Traditionally money is used as a medium of exchange, legal tender for repayment of debt, standard of value, unit of accounting measure and a means to save or store purchasing power (Phillips and Gorse, 2018). Bitcoin may not fulfil all the functions of money but its scarcity value, anonymity (or pseudonymity), transparency, and autonomy from the government, make it attractive to users who are speculators, traders, merchants, consumers and netizens disenchanted with fiat money (Kam, 2017). Despite the alluring features of cryptocurrency, it is not spared from potential abuses such as internet-crimes, tax evasion, fraud, online black markets, money laundering and terrorism financing (Sanchez, 2017).

There are **1649** cryptocurrencies, out of which 1376 have a market capitalization totalling to **\$374,966,747,595** (*All Cryptocurrencies | CoinMarketCap, 2018*) (as at 7<sup>th</sup> July 2018) The highlight of the study is, the growing usage and the consistently volatility in the market capitalization of all the cryptocurrencies (*All Cryptocurrencies | CoinMarketCap, 2018*). There are 1649 cryptocurrencies and generally only 5 are known and spoken about.

From April 2018 to July 2018 – number of cryptocurrencies have gone up from 1584 to 1649 .i.e. approximately an increase of 4% (65 in number) in a span of three months and a hit of decrease in market capital of 23% in the same span of time; .i.e. a decrease in 86.5 billion in the market capitalization of all the cryptocurrencies (*Cryptocurrency Market Capitalizations | CoinMarketCap, 2018*) (*All Cryptocurrencies | CoinMarketCap, 2018*) .

Further-more, as on 17<sup>th</sup> August 2018, there are **1855** cryptocurrencies in circulation, and the total market capitalization of all the currencies is totalling to **\$212,077,636,506**. (*All Cryptocurrencies | CoinMarketCap, 2018*).

	No. of Cryptocurrencies	Market capitalization
Apr-18	1584	461,466,747,595.00
Jul-18	1649	374,966,747,595.00
Aug-18	1855	212,077,636,506.00

Hence, the increase in the cryptocurrency market during the span of the research (April 2018 – August 2018) warrants for a regulated accounting policy for accounting for cryptocurrencies in a logical and a consistent

manner. All the cryptocurrencies do not have a ready market to be traded, as only few are being freely traded and therefore, have a ready market in which they can be used as a payment method. The research revolves around how the current set of accounting standards will be used to account for digital currencies and will also cover the need for amendments in the definitions of various assets to incorporate cryptocurrencies within the scope of assets or a need for a different accounting standard along with a different class of asset i.e. crypto-assets. The cryptocurrency market capitalization is substantial; also, the market in the near future will grow and there will be a need for the accounting regulation of the recording cryptocurrency transactions.

**TOP 100 CRYPTOCURRENCIES WITH MARKET CAPITALIZATION** (All Cryptocurrencies

| CoinMarketCap, 2018)

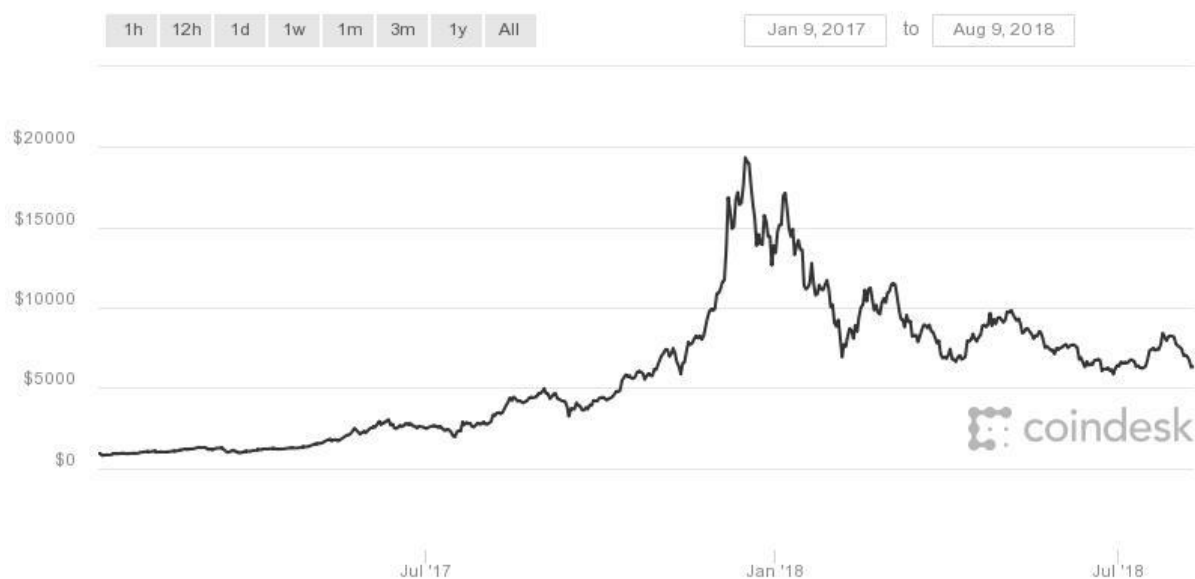
#	Name	Market Cap	#	Name	Market Cap
1	Bitcoin	\$110,203,990,676	51	RChain	\$137,208,899
2	Ethereum	\$29,635,254,619	52	Status	\$132,780,797
3	XRP	\$12,596,555,847	53	Hshare	\$129,364,946
4	Bitcoin Cash	\$9,594,776,756	54	KuCoin Shares	\$127,993,354
5	EOS	\$4,553,402,881	55	Mithril	\$127,980,079
6	Stellar	\$4,213,099,871	56	Komodo	\$123,500,716
7	Litecoin	\$3,251,206,663	57	Dentacoin	\$116,366,164
8	Tether	\$2,728,532,707	58	IOST	\$113,774,436
9	Cardano	\$2,568,932,509	59	Ardor	\$110,842,891
10	Monero	\$1,575,761,488	60	MaidSafeCoin	\$108,352,970
11	TRON	\$1,382,942,265	61	DigixDAO	\$104,487,529
12	Ethereum Classic	\$1,365,676,603	62	Huobi Token	\$103,281,610
13	IOTA	\$1,360,798,024	63	Waltonchain	\$102,922,273
14	Dash	\$1,247,982,424	64	Mixin	\$98,408,192
15	NEO	\$1,164,702,929	65	Aion	\$97,956,294
16	NEM	\$949,987,422	66	MonaCoin	\$96,622,403
17	Binance Coin	\$936,537,758	67	Kin	\$95,980,535
18	Tezos	\$804,240,411	68	aelf	\$94,754,236
19	VeChain	\$678,322,109	69	FunFair	\$93,667,118
20	Zcash	\$652,482,030	70	ChainLink	\$93,632,647
21	OmiseGO	\$556,163,323	71	Cryptonex	\$91,069,482

22	Lisk	\$404,705,090	72	GXChain	\$89,753,512
23	Qtum	\$398,062,280	73	ZenCash	\$87,761,629
24	Ox	\$391,513,718	74	Bitcoin Private	\$86,920,091
25	Decred	\$316,825,735	75	Wanchain	\$85,559,070
26	Bitcoin Gold	\$315,303,567	76	Bancor	\$83,781,892
27	Bytecoin	\$308,691,039	77	Holo	\$80,962,747
28	Ontology	\$306,283,869	78	Nebulas	\$74,703,663
29	BitShares	\$289,273,359	79	Aurora	\$74,379,738
30	Maker	\$284,917,636	80	Emercoin	\$73,767,356
31	Dogecoin	\$277,523,693	81	Decentraland	\$73,755,727
32	DigiByte	\$276,391,635	82	MCO	\$73,348,615
33	Zilliqa	\$265,064,942	83	ZCoin	\$72,296,665
34	Steem	\$250,813,586	84	TaTaTu	\$70,026,007
35	Aeternity	\$249,637,350	85	Power Ledger	\$69,287,241
36	ICON	\$240,693,093	86	Ark	\$68,995,564
37	Waves	\$208,074,273	87	Elastos	\$68,295,202
38	Verge	\$205,834,151	88	Cortex	\$67,962,068
39	MOAC	\$204,346,162	89	Nxt	\$67,515,731
40	Basic Attenti...	\$203,978,578	90	WAX	\$66,739,627
41	Siacoin	\$203,819,759	91	ReddCoin	\$66,100,251
42	Nano	\$199,966,336	92	TrueUSD	\$65,697,163
43	Populous	\$195,387,208	93	Loopring	\$65,115,116
44	Augur	\$194,199,572	94	PIVX	\$62,842,176
45	Bytom	\$171,778,051	95	TenX	\$61,196,348
46	Bitcoin Diamond	\$164,963,559	96	Dropil	\$59,588,978
47	Pundi X	\$155,745,022	97	Kyber Network	\$59,537,964

48	Metaverse ETP	\$150,764,822	98	QASH	\$59,283,605
49	Golem	\$145,627,527	99	ETERNAL TOKEN	\$59,051,999
50	Stratis	\$140,083,814	100	Nuls	\$57,507,306

The volatility of this type of currency is very high, thus making it difficult to account for it. For example the value of Bitcoin approximately increased up to 700% and then also decreased considerably towards the end of the year 2017 (*Bitcoin: Bitcoin zooms past \$18,000; rallies over 700% so far this year - The Economic Times, 2017*). An additional complication has come up, however secure and cheap the digital currencies are with respect to cash and credit cards, the values of these currencies keeps on fluctuating. Virtual currencies are subject to large swings and are only as strong as the market they are traded in. The future of bitcoin is still unclear because we don't fully understand the capacity of this new technology, what it can do and achieve and how it can be utilized but it will surely have an impact of the business community (Barlin, 2017).

Figure 1: A graph showing the growth of Bitcoin.



A study of 2 cryptocurrency depicting the volatility via charts:

As seen in the charts of bitcoin and ethereum prices below, the two most used/traded cryptocurrencies and it is noticed that in a span of one year- Bitcoin market cap has raised from near zero dollars to beyond 300 billion dollars ( July 2017 to January 2018) and has also dropped to 120 billion dollars ( January 2018 to July 2018). Similarly the prices have fluctuated in the same proportion, as we can see in the chart below.

As also we can see the fluctuations in the Ethereum as compared to value in US dollars and value in Bitcoin, also the market capitalization movement in US dollars- it is seen in the charts that the market cap goes from zero to approximately 150 billion dollars and then falls back again to 50 billion dollars. The volatility of this type of currency can be seen by the charts mentioned and we can conclude that it has been quite risky in terms of investment. Interestingly in chart #2 the price correlation between bitcoin and USD is more in 2018 as compared to in 2017, this could be because of the increase popularity in the later stage which could also correspond to their difficulties in use.

Chart #1

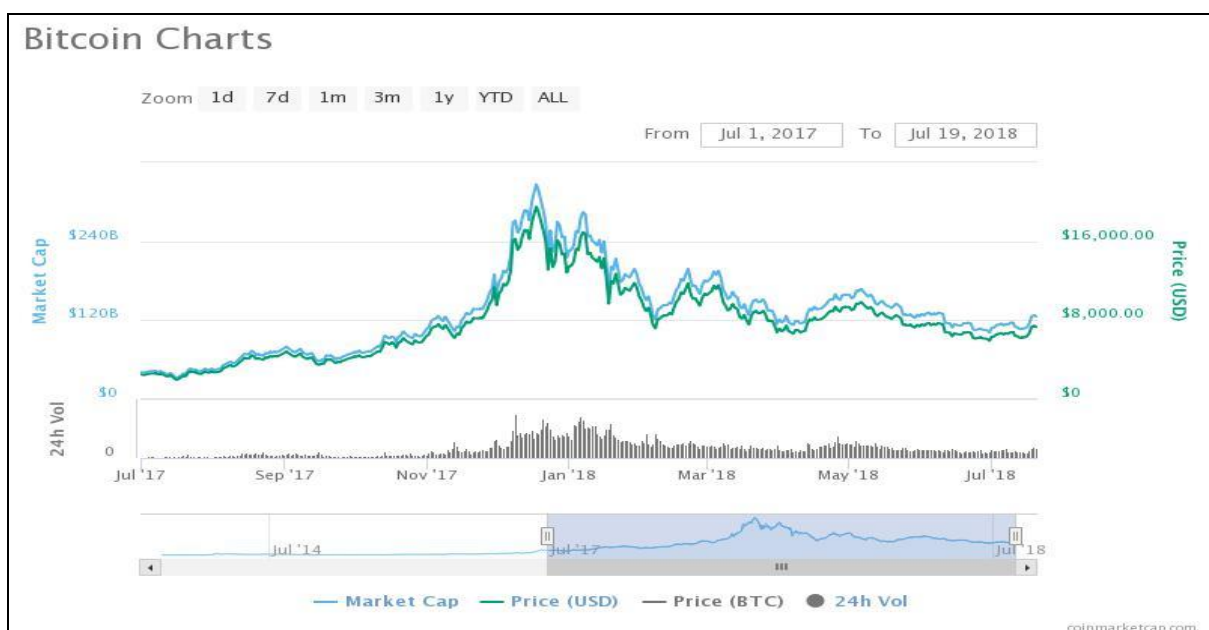
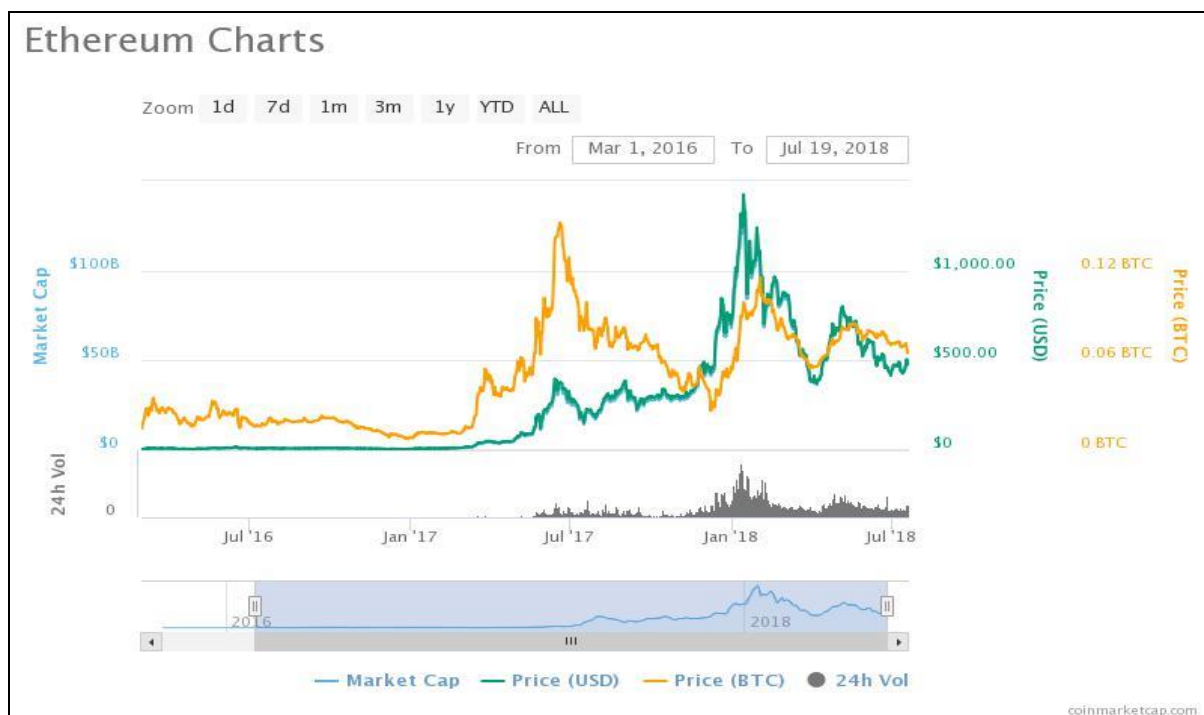


Chart #2



## What is Blockchain?

Blockchain (blockchain is explained in the later part) is a digital ledger of economic transactions with a list of records which is stored in blocks (Ram, Maroun and Garnett, 2016).

There are two types of records in blockchain database;

1. Transactions
2. Blocks

Each Block is a collection of transactions. Each block is dated on which the transactions has taken place and it is also linked to previous block. No transactions can be altered retrospectively (Carlozo, 2017).

Blockchain is a list of records stored in blocks and it is a ledger which is completely public i.e. anybody can have access to view the ledger (Carlozo, 2017).

Importance of blockchain to accountants and finance professional:

**The Scope Blockchain is broader than cryptocurrencies:** Blockchain overall has much wider scope. Bitcoin and blockchain are connected but are different. Although blockchain was created to help transact in Bitcoin, Blockchain is a global digital ledger which not only records crypto currency transactions but also stores various documents such as property deeds, birth records etc in blocks (Carlozo, 2017). While this research is about accounting for cryptocurrency, it is just to explain how blockchain works and its applicability on accounting and accounting professionals (Carlozo, 2017).

**Emerging technology which can change the dynamics of finance:** About 60% of the finance and accounting executives have knowledge about the blockchain technology. A major catching up has to be done in this area by finance leaders as lot of awareness is being created on the impact that blockchain will have (Carlozo, 2017). As there is lack of awareness (about 40% of finance and accounts executives) it is significant that they are made aware about cryptocurrencies and how it will affect their function.

**Powerful tool to do business:** The scalability of this technology is still not known. With the degree of sophistication this technology has reached magnificent efficiency in business transactions with is incorruptible, there are lot of experimenting with this technology and interests in applying this technology in business (Carlozo, 2017).

### What is Mining?

Cryptocurrency is not produced by minting money in an unlimited supply, but through a virtual "mining" process designed to control the supply of "money" and make it more valuable (Eyal and Gün Sirer, 2018). The increasing pace in financial innovation is pushing regulators to make a change in the way they define money and what money can be (Hern, 2018). Although mining of cryptocurrency doesn't mean physically digging out coins off the ground, it means solving puzzles/algorithms with the help of computers (i.e. a cost is associated to this mining process –

electricity consumed, capital investment of a high power machine which are eligible to solve algorithms) (*How bitcoin mining works*, 2013). The miners get rewards (for example: Bitcoins) as a result of creating blocks for each validated transactions (Eyal and Gün Sirer, 2018). The puzzle that needs to be solved is to ideally find a number which when combined with the data in the block and passes through a hash function(*How bitcoin mining works*, 2013) . The initial miner who is able to guess the correct number which fits in the hash function announces to the fellow miners, who validate his victory as a result of validation the initial miner is awarded bitcoins (Eyal and Gün Sirer, 2018).

Thus, there are costs in mining a cryptocurrency. The cost of which should be ideally accounted for; if it is to be reported in a financial statement and held as an asset or currency.

## 2.2. Connection between Accounting and Cryptocurrency

The interest of the financial professionals in digital currency has increased over the previous years and now even regulators are taking notice of the same (Barlin, 2017). There is a controversy regarding the accounting of digital currency in financial statements and also the tax treatment is a grey area. Volatility being a huge factor to be considered for this type of currency. Thus the increasing usage of cryptocurrency might lead to new set of standards and regulations (Barlin, 2017).

Accounting for cryptocurrencies, recognition of income or losses if any, increase in the fair value of cryptocurrency held and accounting of the same as an asset in possession is a grey area for most of the accountants (Boomer, 2016).

The original idea of Bitcoin was to facilitate peer to peer financial transaction without any involvement of any intermediary (Subramanian and Chino, 2015). With the rising acceptance of bitcoin, came the era of major change in dynamics of the financial sector (Barlin, 2017). Blockchain gained its popularity on the basis of displacing the

banking industry. In a few months, finance executives looked at digital ledger technology as an opportunity than a threat. They decided to include this technology in mainstream banking (Subramanian and Chino, 2015). Inconsistency arose in the areas of Accounting, Taxation and Auditing. Being one of the first digital currency, based on technology not fully known to us, the rules in the different fields of commerce were rendered inconsistent (Barlin, 2017).

Existing accounting standards do not explicitly include cryptocurrency, the basic accounting question here is; Is cryptocurrency an asset? If yes, which type of asset and if no; what can it be classified as. Presuming that the definition of asset is met by cryptocurrencies; the following standards would be applicable (*Accounting for Cryptocurrency - IFRS*, 2017) ('IFRS: Accounting for crypto-assets', 2018).

- i. Cash (*Statement of Cash Flows: IAS 7 or Financial Instruments: IFRS 9*);
- ii. Non- Cash Financial assets (*IAS 32: Financial Instruments- Presentation*);
- iii. Investment Property (*IAS 40: Investment Property*);
- iv. Intangible assets : IAS 38;
- v. Inventory: IAS 2;
- vi. Disclosures: IAS 1.

#### Cryptocurrency compared to Cash and Cash equivalents:

The SEC, IRS have issued regulations regarding the digital cryptocurrency. The prime issue with the digital currency like bitcoin is that it can be treated as both, an investment property or a method of payment. The way around this is by converting bitcoin into legal tender like Overstock.com, which was the first vendor to accept bitcoin as a method of payment from its customers. The customer is using a property, bitcoin, to buy a product, but rather than treating as transaction of a

property it should be considered as an ordinary business transaction. This creates major reporting issues in book keeping and taxation (Barlin, 2017).

Cryptocurrencies are highly volatile, cannot be converted into cash as readily as other cash equivalents as their acceptance is still an issue and cannot be exactly termed as short term ('IFRS: Accounting for crypto-assets', 2018). Hence, cryptocurrencies fails to meet the definition of cash and cash equivalent. Cash has a characteristic of its being backed by a government or a central bank. They are backed by substance and are legal tender in all jurisdictions. Technically Fiat money can be considered as cash/ currencies. Again cryptocurrencies are not backed or issued by any government and therefore are not Fiat money, therefore, cannot be considered as cash under accounting standards ('IFRS: Accounting for crypto-assets', 2018). After analysing the definitions above, cryptocurrencies cannot be classified as cash or cash equivalents.

#### **Cryptocurrency compared to Non-Cash Financial Asset:**

Treatment of bitcoin owned or held by individuals, in Accounts and Taxation would be based on the purpose of owning the crypto currency. If held for investment purpose then long term asset or if held for resale then as a short term asset like cash and cash equivalent. Regulators took notice of this and realised that increasing use of bitcoin and other digital currencies would lead to new regulations and accounting standards (Barlin, 2017). One of the key factors of a non-cash financial asset is – the owner of the financial asset has a contractual obligatory right to receive a cash inflow, either another financial asset in exchange of the non-financial asset from an entity or in settlement of a financial liability. Cryptocurrencies lacks the contractual obligation as the holder of a cryptocurrency can sell the currency depending on the conversion rate as on the date of desired conversion ('IFRS: Accounting for crypto-assets', 2018).

Although as the development of a cryptocurrency future for e.g. a forwards contract or options of cryptocurrency where there is a contract that settles in cash based on

the movement and the holders rights; such contracts might fulfil the definition of a derivative and would be subject to accounting under accounting for financial instruments IAS: 32.

#### **Cryptocurrency compared to an Investment property:**

According to the United States Inland Revenue Service (IRS), If virtual currency is not real currency, then it will be treated as a property under the tax system. This means that long term capital gain or loss should be recorded as transaction of property. If it held up resale purpose than it should be treated as inventory and an ordinary sale must be recorded. The value of bitcoin keeps on fluctuating, so the value of bitcoin on the date when the transaction takes place is the value that should be recorded (Barlin, 2017). When a cryptocurrency is compared to the definition of investment property, it only meets one criteria .i.e. holding for capital appreciation but does not meet the definition of the investment property as cryptocurrency is not a property; tangibility is a question here as IAS 40 particularly accounts for tangible properties like land or building. Hence, Cryptocurrency cannot be accounted for as an investment property ('IFRS: Accounting for crypto-assets', 2018).

#### **Cryptocurrency compared to an Intangible Asset:**

Cryptocurrencies are usually identifiable and do not have physical substance. Cryptocurrencies generally are non-monetary as they fail to meet the definition of monetary assets as in IAS 38.8. According to the definitions mentioned in the chapter 1, it appears that many cryptocurrencies might meet the definition of intangible assets and are therefore are within the scope of IAS 38 and can be accounted for, as intangibles.

A cryptocurrency within the scope of IAS 38 and eligible for recognition could be measured initially at cost. The cryptocurrency may be subsequently measured at either cost (i.e., the cost method) or at fair value (i.e., the revaluation method). It is likely that cryptocurrencies would qualify as indefinite lived intangibles, if there are

no factors to indicate a definite useful life. Under the cost method, any impairment charge recorded under IAS 36 Impairment of Assets is recorded in the statement of profit or loss. The revaluation method can only be used if there is an active market for the cryptocurrency. IFRS 13 Fair Value Measurement defines an active market as a

“market in which transactions for the asset or liability take place with sufficient frequency and volume to provide pricing information on an ongoing basis.”

An entity wishing to use the revaluation method will need to establish that an active market exists for the cryptocurrency. If there is an active market for the cryptocurrency and if the revaluation method is elected as a policy, the statement of financial position would reflect its period-end fair value (‘An Introduction to Accounting for Cryptocurrencies’, 2018).

Under the revaluation method, the accounting for the change in fair value is more complex: increases in fair value are recorded in other comprehensive income (OCI), while decreases are recorded in profit or loss. Under IAS 38, there is no recycling of gains from OCI to profit or loss statement. However, to the extent that an increase in fair value reverses a previous decrease in fair value that has been recorded in profit or loss, that increase is reported in profit or loss. As a result, the cumulative effect on profit or loss includes the net decrease in fair value of the cryptocurrency over time. Similarly, a decrease in fair value that reverses a previous increase is recorded in OCI, resulting in the cumulative effect on OCI being the net increase in fair value of the cryptocurrency over time (Commission, 2018).

#### **Cryptocurrency compared to Inventories:**

IAS 2 can be used only for individuals who hold cryptocurrencies as inventories .i.e. to sell for future gains. And for this purpose a cryptocurrency can be valued at cost or net realisable value whichever is lower like all the other inventories. While this accounting treatment may seem logical but it can be used only for brokers of

commodities which fall under the definition of brokers ('IFRS: Accounting for crypto-assets', 2018) ('An Introduction to Accounting for Cryptocurrencies', 2018)

#### **Cryptocurrency and its translation:**

One of the other considerations to be made about accounting for cryptocurrency is its translation into the entity's functional currency; according to IAS 21 "The effects of changes in foreign exchange rates", initial recognition to be done using the spot exchange rate between the functional currency and the cryptocurrency. Subsequently, for each reporting period as per IAS 21 foreign currency monetary items shall be translated on the basis of closing rate, non-monetary items which are measured at historic rates - will be translated as per the rate on the date of transaction and non-monetary items that are measured at fair value - will be translated using exchange rates at the date of the fair value measurement. Furthermore, cryptocurrencies cannot be considered as monetary-items and therefore, the guidance of non-monetary stated above should be followed ('IFRS: Accounting for crypto-assets', 2018).

Virtual currency transaction are creating problems for auditors as well. The technological complexities can affect the internal control which can lead material misstatement in the financial statements. Greg Maxwell created a technique called Merkel Tree Technique regarding the value of bitcoin transactions. It states that auditors can compare the balances of the digital currencies a company holds as reserves to the actual customer balance (Barlin, 2017).

#### **Cryptocurrency and disclosure:**

Entities should comply with the disclosure requirements of the IFRS Standards they use in accounting for cryptocurrencies (e.g., IAS 2, IAS 38, IFRS 13). However, given the complexity and volatility associated with cryptocurrencies, entities should consider whether additional disclosures about their cryptocurrency holdings are necessary ('IFRS: Accounting for crypto-assets', 2018).

In addition to the disclosures required by a specific IFRS Standard, the following disclosures, among others, may also be relevant:

- a description of the cryptocurrency, its important characteristics and the purpose of holding it (e.g., investing, buying goods and services);
- the number of units of the cryptocurrency held at year end;
- how the accounting policy for cryptocurrencies was determined and the basis for the same;
- if the cost model is used, the fair value for the cryptocurrency together with the appropriate IFRS 13 disclosures;
- information on the market risk associated with the cryptocurrency (e.g. historical volatility) (Commission, 2018).

### 2.3. Finance Executives/Accountants and Blockchain:

Blockchain, often seems to accountants like a riddle wrapped in a mystery inside an enigma (*Why finance executives should care about blockchain, 2017*). The technological aspect of it is quite difficult to understand without a computer science degree, where it really matter is its POTENTIAL. It is arguable that it might transform finance, accounting and audit completely or not. Finance executives are lagging behind in the knowledge of blockchain and its impacts and now is the time to step up and make use of this amazing technology to make things in finance world better and easier (*Why finance executives should care about blockchain, 2017*).

Traditionally, Accountants were placed with a lot of booking keeping, accounting duties, disclosures, obligations and presentations but with blockchain coming in the picture -it is virtually impossible to alter data or infect the data with fictitious/bogus entries of the distributed general ledgers as there are encrypted signatures of multiple parties to qualify any transaction (Hoelscher, 2018). More involvement of

accountants and finance executives in the IT sector to learn and create new processes on blockchain technology would increase the demand for accountants with IT expertise, it will require them to collaborate with IT professionals to help create new technologies with their accounting knowledge and provide a better product based on blockchain ('Finance sector can't ignore risks of cryptocurrencies', 2018). Understanding the underlying technology of cryptocurrencies and of distributed public ledger can enable accountants to assess the new control environment and new risks to the organizations (Hoelscher, 2018).

An Article by California CPA. Oct2015, a digital currency or cryptocurrency, and why it matters to certified public accountants (CPAs) in the U.S. He stresses the need for auditors, accountants, regulators and governments to embrace the values and virtues of Bitcoin rather than fear and attempt to restrict its use. "Bitcoin and other cryptocurrencies are disruptive technologies that are experiencing growing acceptance. As advisers and professionals, it's in our best interest to embrace these changes and become familiar with the workings of such digital money to better help our clients navigate the digital frontier", says Daniel Morris who is a CPA & CGMA in one of the CPA journal editions called Emerging economies. Also discussed are the role of money as a means for exchanging obligations between parties, objections to using Bitcoin due to illegal activities, and its advantages over traditional currencies (Morris, 2015).

#### 2.4. Accounting Policy Themes vis-à-vis the characteristics of cryptocurrencies:

**Recognition at cost:** Recognition of cryptocurrency at cost refers to accounting for cryptocurrency when received at actual cost but it does not reflect the economic substance and fails to provide any material information to the users of financial statements ('An Introduction to Accounting for Cryptocurrencies', 2018). Recording the cryptocurrencies initially at cost and subsequently value them at fair value results into unrealised gain or loss on revaluation; revaluation accounting can be easily done by using the accounting standards for accounting for intangibles i.e. revaluation

gains can be taken through other comprehensive income and the loss on revaluation can be accounted for via the profit and loss statement (Commission, 2018). Characteristics of cryptocurrency that justify the accounting at cost methods are: cryptocurrencies are mined using a high power computer and require enormous computing power (Chiu and Koepl, 2017); cryptocurrencies are valued on the basis of their supply and demand which are not linked to macroeconomic variables like interest rates or fiscal policy (Phillips and Gorse, 2018); if cryptocurrencies are traded in normal course of business or considered as assets in the production or supply of goods and services (Ram, Maroun and Garnett, 2016).

**Fair-value basis of accounting:** At some instances, cryptocurrencies should be accounted for using the fair value of the cryptocurrencies, or fair values would be used for the purpose of disclosure in the financial statements (Commission, 2018). The significance could be placed on accounting for realised or unrealised changes in the market value of cryptocurrencies, when the disclosure is made and disclosing at the historic costs doesn't provide useful information to the users of the financial statements. Despite volatility being one of the major features of a cryptocurrency it shouldn't prevent the recognition and also the volatility must be communicated to the user using accounting for fair value recognition (Ram, Maroun and Garnett, 2016). Under IFRS 13: Fair value measurement, the logic of the fair value measurement of an asset is an exit price ('An Introduction to Accounting for Cryptocurrencies', 2018).

A guidance paper by Chartered Professional Accountants of Canada 2018 says,

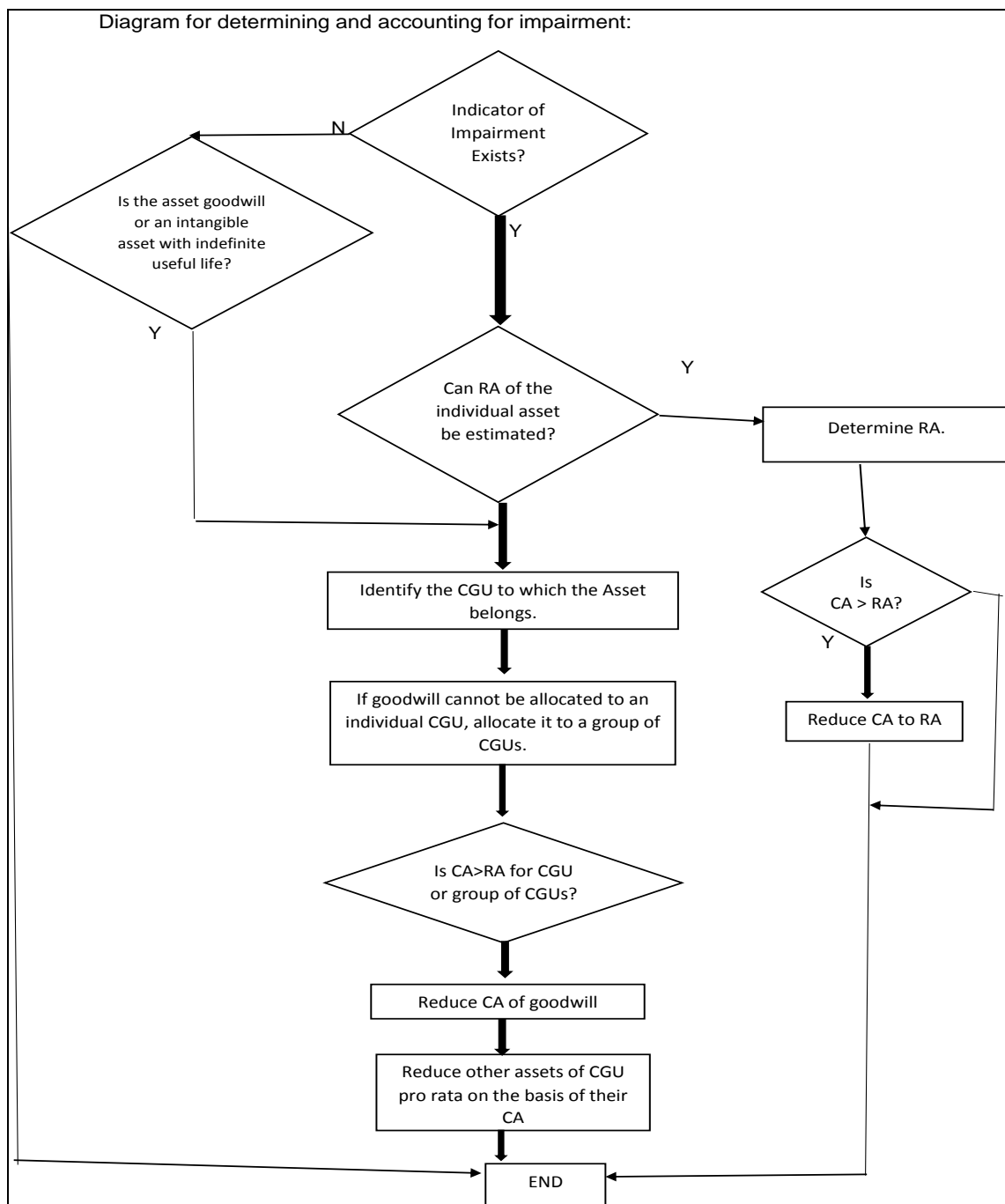
"Many cryptocurrencies are volatile, and markets may remain open 24/7. The time at which a reporting entity values the cryptocurrency may therefore be important. For example, is the valuation at 11:59 p.m. on the last day of the reporting period or at the close of business on that day? This may represent a

significant accounting policy. Consistency of application of that policy is required.”

Therefore, as mentioned, the accounting on fair value basis too requires proper regulation and consistency. The fair value accounting can be used when the cryptocurrencies are used for speculative purposes (Ram Asheer, 2015) or when cryptocurrencies are used as a store of wealth (Ram, Maroun and Garnett, 2016).

**Recognition Criteria:** One of the very significant questions to be answered is Revenue recognition, When will be the receipt of a cryptocurrency be recognised in the books of accounts. Recognition of cryptocurrency when control of the reporting entity can be exercised or recognition when acquired/available for intended use for the entity; these are some options for recognition in the books of accounts (Ram, Maroun and Garnett, 2016) (Ram Asheer, 2015). The financial statements should ideally show the specifics of the organization and should agree with the concept of future cash flows.

**Carrying value should not exceed its market Price/ Impairment Testing:** The revaluation of a crypto-asset shouldn't exceed its market price, as the Value in use to be calculated for determination of the carrying value of the asset cannot be reliably measured of a cryptocurrency as value in use generally refers to future estimated cash flows and it is nearly impossible to estimate the future cashflows inflows from cryptocurrencies because of their volatile nature ('IFRS: Accounting for crypto-assets', 2018). The following diagram is the researchers understanding of impairment and diagrammatic view of how impairment works.



**Accounting for changes in the market price:** Cryptocurrencies being reflected at their market prices are more relevant to the users of financial statements ('An Introduction to Accounting for Cryptocurrencies', 2018). Also, if a cryptocurrency is recognised as an intangible asset in the books of accounts, under the revaluation method- cryptocurrencies will be reflected at market values and a gain or loss under revaluation would be taken through Other comprehensive income ('IFRS: Accounting for crypto-assets', 2018).

**Emphasis on Acquiring or mining rather than accounting for change in market value:** While accounting for cryptocurrencies, it must be noted that the significant area of importance would be evaluating the origin of the cryptocurrency, i.e. whether it was mined, bought or received as a payment. All the three variables are treated differently in the books of accounts and therefore, prudence shall be applied when initial recognition in the books of accounts takes place on the origin of the cryptocurrency (Ram, Maroun and Garnett, 2016).

**Volatility:** Volatility being a significant feature of cryptocurrencies, should not preclude the recognition of receipt of a cryptocurrency. Volatility in the price of cryptocurrency on hand must be communicated to users of financial statements. If cryptocurrencies are accounted for other investment assets which are volatile as well (e.g. derivatives, commodities, futures and options) changed in their values must be conveyed via disclosures and quantifying the changes where ever necessary and possible (Ram, Maroun and Garnett, 2016) (Ram Asheer, 2015) ('An Introduction to Accounting for Cryptocurrencies', 2018) (Commission, 2018).

## 2.6. Case study of Overstock.com:

**Southern Illinois University Edwardsville,** Explores the issues relating to accepting Bitcoin as a payment with a case study. *The case involves Overstock.com's decision in January 2014 to start accepting Bitcoin as payment for goods, examining the accounting implications from accepting Bitcoins and researching the relevant accounting pronouncement.* Initially when Overstock.com decided to accept bitcoin, it entered into an agreement with Coinbase; a company which would set an exchange rate when a customer selects to make a payment using bitcoin on overstocks website and would convert the customers bitcoin in US dollars on the basis of the exchange rate and transfer US dollars to overstock.com (Gross, Hoelscher and Reed, 2015). Back in 2014 Overstock.com didn't hold bitcoins but as of 2018, the annual reports filled by overstock.com reflects Bitcoin in their financial statement. Overstock.com now not only accepts bitcoin but also accepts few other cryptocurrencies and they

record the income or loss on holding such currencies via other income, net off in their consolidated statements ('OverstockForm10K03152018.pdf', 2018).

Overstock was one of the very few companies which accepts bitcoin as a payment have financial statements that reflects cryptocurrencies and notes about their valuation techniques. When studied other companies Form 10-k filed with the SEC in the US, only companies which are exchange for cryptocurrencies have cryptocurrency in their statements. Therefore a study of overstock.com's financials is a powerful insight for this research as it deals in accounting for cryptocurrency for real ('OverstockForm10K03152018.pdf', 2018).

## 3. Research Methodology

### 3.1. Research Introduction

We can therefore characterize research into as something that individuals embrace with a specific end goal to discover things systematically, thereby expanding their insight" (Saunders et al, 2012) Saunders indicates that it is vital to understand the utilization of the term "systematic" and it depends on sensible connections and not simply convictions. When directing research it includes the use of various strategies and methodologies (Saunders et al, 2012). Bryman and Bell see business research which incorporates studies of sociologies, including sociology, psychology, anthropology and economics for conceptual and theoretical inspiration. (Bryman & Bell, 2015).

Jankowicz, 2005 defines methodology as the analysis of, and rationale for, the particular method or methods used in a given study, and in a particular type of study in general. The researcher merely pointing out the methodology of the research is for the readers to have a flow of approach that has been adopted for gathering data. The most common definitions suggest that methodology is the overall approach to the research which is linked to the idea or theoretical framework and the research "method" refers to procedures or tools used for collection and analysis of data and the systematic flow of the research (Mackenzie and Knipe 2006).

### 3.2. Aim

The intention of this research is to assess the accounting aspect of cryptocurrency and to analyse how the present standards could be applied to the concept of digital currencies. Various aspects of Accounting have been considered for the purpose of this research; Valuation of the currency, classification of the asset subject to the definitions as per the given standards. This research also considers the need of having a stand lone accounting standard for accounting for cryptocurrencies. The research method used in this research was qualitative approach, as the study required particular questions to be asked to experts who had in depth knowledge

about both accounting and cryptocurrency. This chapter would elaborate about the research methods and methodology followed and how methods and methodology are not interchangeable terms.

### 3.3 Research Question

The research question is the key question behind the research process. The research question usually drives the thought process of the researcher. Therefore it is important that the research question is clearly defined which is aligned with the goals of the research. For the purposes of this research the following question has been articulated to identify and assess the current and prospective issues related to accounting for cryptocurrencies. Blumberg et al enlist that the answer to the research question gives the desired information necessary to make a decision with respect to the research question.

Research Question: *An introductory outlook: What are the prospective and current issues with regards to accounting for cryptocurrency?*

### 3.4. Research Methodology

Creswell (2012) describes three broad research designs, carried by different views of the world and entails different methodologies: quantitative, qualitative and mixed methods approaches. The approach taken in this research project was initially quantitative and changed to qualitative approach and design. This research also included a review of a hundred financial statements to understand the current treatment of cryptocurrency in books of accounts.

The research was conducted from May 2018 until 15<sup>th</sup> August 2018. In line with Creswell's criteria for why qualitative research will be more effective in this case as a research method:

- The phenomena under study occurred in a natural setting

- There was no a priori established theory or hypothesis; the research merely wanted to investigate the views of accountants and finance professionals in regards to financial reporting of cryptocurrencies
- The researcher was the primary instrument in data collection, interviewing, making observations and participating in the work of the research.
- The data was primarily descriptive, no attempt was made to quantify observations or interview data. Data was collected from previous literature about the topic, interviews from accounting and finance professionals
- The focus of the research was on the views of interviewee's on the accounting of cryptocurrency. The focus was on the critical accounting questions which would arise on accounting for cryptocurrency.
- The key idea behind qualitative research is to learn about the problem or issue from the participants and to address the research to obtain that information.

### 3.5. Research Philosophy

A research logic is a conviction about the manner by which information about a phenomenon ought to be accumulated, examined and utilized. The term epistemology (what is known to be valid) rather than dogma (what is accepted to be valid) includes the different methods of insight of research approach. The reason for science, at that point, is the way toward changing things accepted into things known: doxa to episteme. Two noteworthy research rationalities have been recognized in the Western custom of science, specifically positivist (here and there called logical) and interpretivist (otherwise called anti-positivist) (Galliers, 1991). The researcher when conducting research and finalising the dissertation considered several different philosophies including: Pragmatism, Interpretivism, Objectivism, Subjectivism, Realism and Positivism.

Positivism: Positivists trust that the truth is steady and can be watched and depicted from a goal perspective (Levin, 1988), i.e. without meddling with the phenomenon being contemplated.

Interpretivism: Interpretivists battle that exclusive through the subjective understanding of and mediation as a general rule can that the truth be completely comprehended.

This research will be based on both of the philosophies, as it requires to interpret Statutes, standards and regulations also studying the impact of cryptocurrency on the same, therefore interpretivism. As positivism believes that reality is stable and can be observed and described – this approach will also be used for some parts of the research like obtaining information about the blockchain technology and how it works.

### 3.6. Research Approach:

There are two types of research approaches namely inductive and deductive research.

#### **Deductive Approach:**

It simply involves the development of the theory that is then subjected to a rigorous test through a series of propositions. Deductive approach is more affiliated with Quantitative research where the focus is on using data to test theory.

#### **Inductive Approach:**

An inductive argument is radically different from a deductive type as it does not have the same relationship between reasons and conclusions. (Blumberg et al, 2011). A Qualitative research strategy is regarded as inductive as data collection is used to explore a phenomenon and identify themes, patterns to create a conceptual framework. (Saunders et al, 2012)

This research has adopted an inductive approach as this is more suited to qualitative research to use a variety of methods to collect data by studying a small sample of interviewees. This is mainly due to the majority of research following a qualitative method of interviews of accounting and finance professionals. In induction approach an individual looks at events with an open mind, a problem is approached with an open mind and tries to understand the meaning people try to attach to it by asking certain questions and get answers to the same without making any assumptions. In deductive approach assumptions are made and conclusions are derived by doing literature review.

### 3.6. Data Collection

The data collection for the research will comprise of both primary (first hand data collected using surveys and interviews) and secondary (collected via published sources like books and journals). The researcher is using their own contacts and contacts of others that will help overcome the obstacle of accessing people while conducting a thesis, according to Blaxter et al 1996.

The information gathered in chapter 2 of this document will drive the secondary data and chapter 4 will encompass details from the primary data collection.

### 3.7. Qualitative Ethics:

Individual accounting and finance professionals were contacted separately via emails and will be given an option to be a part of the research. This research is anonymous and therefore, name and any identifying information, that gives away the identity will be removed from the data collection. The interviews were recorded with the consent of the participants and also a transcript of the interviews was maintained.

### 3.8. Population & Sample

For the purpose of interviews the individuals chosen for the qualitative research is determined by their relevance to this particular thesis. The key themes are knowledge about accounting and cryptocurrencies (or blockchain), therefore, individuals with background of accounting/finance and necessary experience and skill set to add value to this thesis.

The sample technique is non-probabilistic and also focuses on accounting and finance professionals with a relatively strong accounting background. The sampling is non-gender, non-age non-area specific, as accounting doesn't change based on age, area or gender.

### 3.9. Data collection and analysis

Qualitative Data collection is the primary research; for the purpose of this thesis interviews were conducted on skype (audio) and were recorded with the consent of the interviewees. The approach to the interviews was semi structured. There were thirteen to fourteen questions asked to all the nine interviewees, depending upon their responses to maintain a flow of the conversation. Data that was collected, is more informative than statistical and therefore analysis of the same didn't require use of particular software. MS Office Excel was used to make diagrams and do the required analysis.

## Chapter 4: Data Analysis and Findings

### 4.1. Introduction:

This chapter focuses on the presentation and analysis of the qualitative research conducted for this research. The interviews were semi-structured, this was because although the same questions were asked to all interviewees the questions were structured in different ways and probing questions were different for each interviewees. All the interviewees were initially asked what they know about cryptocurrency, because the research is about cryptocurrency and having basic knowledge about them was required to answer accounting questions about it. The questions were open ended and hence, the answers were in detail in some cases and to the point in some other cases. Analysis of their knowledge about cryptocurrency is not made in this section or any other section, as the objective of the research is to analyse cryptocurrency accounting and not the quantity or quality of their knowledge of cryptocurrencies. Although, all the respondents fairly had a good knowledge about cryptocurrencies.

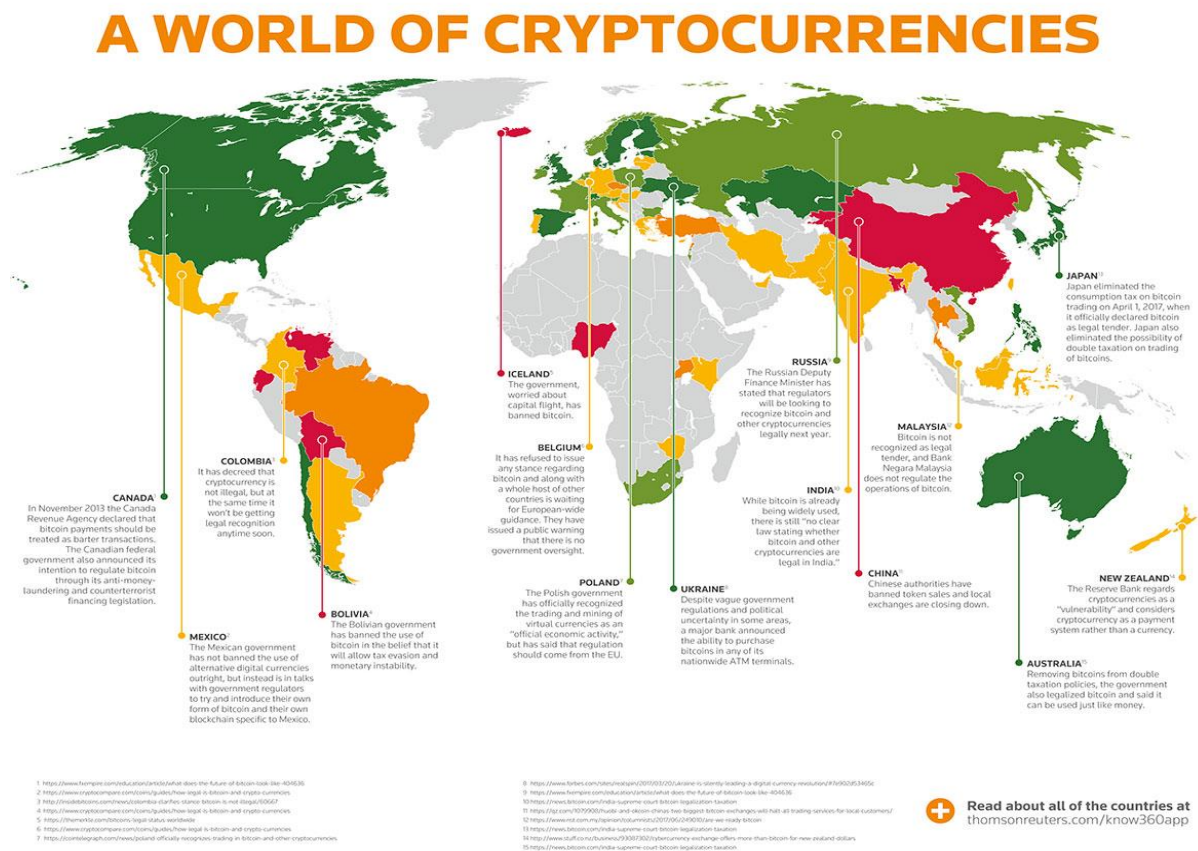
### 4.2 Sample and knowledge base of interviewees

Expert No.	Field/Qualification	Years of Experience
Expert 1	Masters in Accountancy & CA (Africa), Researcher	5years
Expert 2	Chartered Accountant (Mergers & Acquisition)	10 years
Expert 3	Chartered Accountant (India) & Lawyer	5 years
Expert 4	Chartered Accountant (Mergers & Acquisition)	5 years

Expert 5	Chartered Accountant & Equity Research	(3+2) years
Expert 6	Certified Accounting Technician	6 years
Expert 7	Certified Accounting Technician & Masters in Commerce	5 years

The sample of interviewees were chosen on the basis of their accounting knowledge and interest in cryptocurrencies. As this research is about accounting for cryptocurrencies, having technical knowledge about accounting was the essential skill/knowledge for answering the questions. There were few prospective interviewees who had all the knowledge about cryptocurrency and blockchain in immense detail but failed to answer the questions asked in this interview, therefore, the basic requirement under the selection process of the interviewees was Accounting knowledge.

### 4.3 Question about non-acceptance of cryptocurrencies



The acceptance of cryptocurrency is still not all over the world and during this thesis, the professionals were asked what could be the reasons behind the non-acceptance of this digital currency concept and few reasons given by the interviewees are Speculative in nature, Government losing its control/Decentralization of currency, Negligence on the part of government on the advancement of technologies/conservative approach, Threatens the existence of Banks, Volatility, Misuse of Cryptocurrencies, Lack of Transparency and Reliability, Lack of legal Backing, Risks of Data Security/Hacking.

Participant 2 answered saying,

*"There is only one reason-the government cannot control it and that's the power they have. Money (supply of money) is the only power they have and they don't*

*want anyone else to control it, even though it is not backed by anything it is backed by the government so losing that power would be detrimental to them, the excuse they give is the illegal activity and hacking which is not a good excuse that is basically a side effect. The thing is if you regulate something like that it will be more helpful rather than banning it all together, because it is going to be traded anyway - you cannot not have cryptocurrency by just banning it people will still use cryptocurrencies. It is a sheer political thing rather than anything which makes economic sense."*

Therefore, one of the major reasons as we can also see in the chart below is Government losing its power due to the decentralization feature of the currency. Four out of seven interviewees mentioned this point and mentioned that Government might be negligent or might have a conservative approach towards cryptocurrencies. The next most mentioned reason was volatility and speculative in nature, yes the acceptance is an issue due to volatility in the public ( i.e. end users not accepting Cryptocurrencies in the early stages due to its characteristics ) but making it all together illegal or banning it as it is said and done in a few countries is only because the government might lose its control over money.

Participant 3 said,

*"Because I think as an instrument its extremely risky, there are huge risk factors attached to it. So from a valuation perspective if I have to speak, factors like reliability is very low because there is no one person/one institution or any government responsible, there is no liquidity assurance, there is no transparency and reliability (in terms of valuation), also there is no basis of valuation – it basically depends on demand and supply. So all these factors combined makes it an extremely risky, I would almost want to say speculative, as we all know developing or giving growth to speculative business is not the ideal way to grow an economy and any way India doesn't support speculation at all. From betting*

*to gambling any speculative activity is not encouraged in India, in fact India has a highest tax rates on speculative income,...."*

Participant 1 said,

*"The basic nature of cryptocurrencies are that they are decentralized, and I think it is the starting point where the government gets very uneasy, so the decentralized nature of cryptocurrencies means they can't easily be controlled by a central bank or central authority, which introduces the concept of pseudonymity, which means basically people who engage in cryptocurrency transactions they cannot be easily identified and because it is not controlled by a central bank they cannot really control like they would control legal tenders. So, governments then somewhat justifiably concerned about the illegal usage of the cryptocurrency, for example we have seen some papers written on money laundering usage and tax evasion usage which then is a concern to governments and I think countries like India and China..... are taking a very conservative approach".*

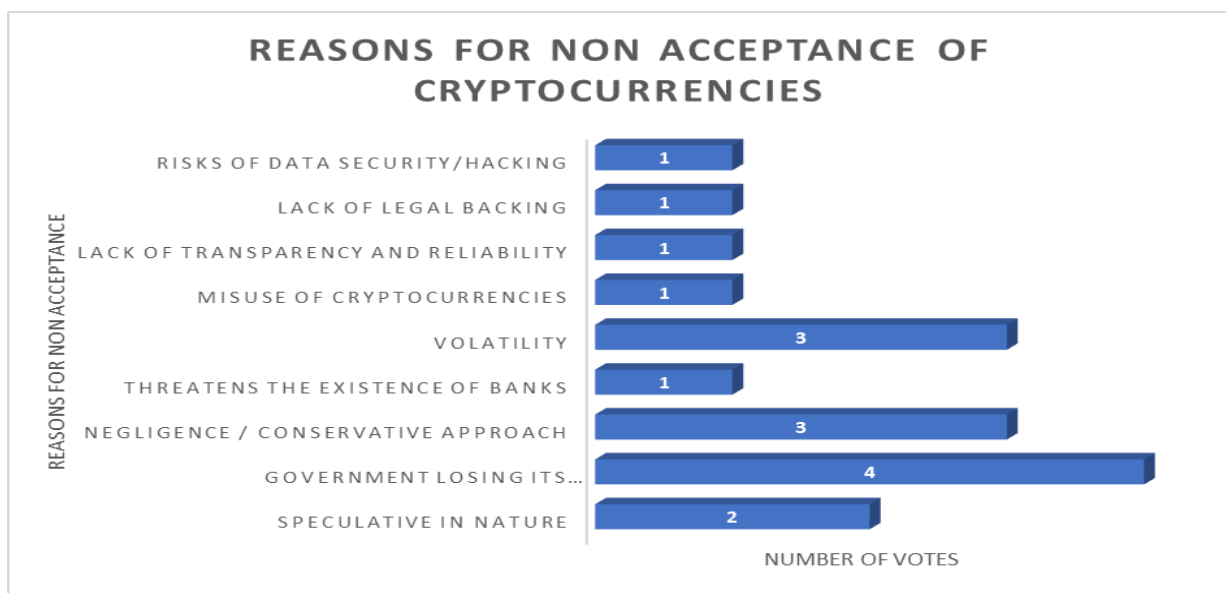
Participant 6 mentioned,

*"so this is a very recent issue which also happened in India. The non-acceptance of Bitcoin and the Reserve bank of India stated that because of its speculative nature it is very risky to adopt cryptocurrency as for legal tender and there won't have any mass acceptance because of the same reason and the major reason is that it does not have any legal backing for example the regular currencies like the INR or the pound or the dollar. They have a backing, like they are based on assets and then you know the value is derived but for Bitcoin it's not the same it's digital currency and it's mostly based on the concept of demand and supply."*

As it is seen above, these are only half of the quoted comments of the experts interviewed and it can be summarized that there are many possibilities where

cryptocurrencies can be used for mal-practices and these are some issues which are of major concerns. Other experts also spoke about volatility and risk of data security, breach of security and risk of hacking. Lack of legal backing and lack of reliability on such currencies were also discussed along with the conservative approach of government and the risk of losing the money making/minting power by the governments were spoken about by most of the experts. The prices being derived by demand and supply was another most mentioned issue for non-acceptance of cryptocurrencies.

Figure: Reasons for non-acceptance of cryptocurrencies



#### 4.4. Research of the views of the accounting and finance professionals regarding need of a stand-alone accounting standard for cryptocurrencies

Interviewees were asked, whether they think a stand-alone accounting standard is required for the simplification of the accounting of cryptocurrencies in the long run?

Participant 1 said,

*"I definitely think there is an opportunity to clarify, exactly how the cryptocurrency should be treated. Right now there is only two places where it fits- inventories and intangible assets, it doesn't fit in financial instruments, property plant and equipment, cash and cash equivalents, investment property etc; because it has got a quasi-asset and quasi-currency nature, I really do think there needs to be further guidance around how it should be accounted, because I am sure in practice at least, the companies/entities who disclose this information they are not going to have the same accounting policies and same treatment. Which means comparability would be an issue and the whole point of accounting standards is to allow comparability between entities. Here the bitcoin is so subjective, that each entity can have very different policies. Yes it ties back down to the economic rationale but in a certain industry the economic rationale could be may be argued to be different and you have different disclosures, different treatment in the same industry which impairs their comparability, so I know the Australian accounting standards board has published some information on how they see currently to be treated, I don't know if it is there on their agenda but as the eco system matures, as cryptocurrencies become more material in the business space then there is really a need then for a unified accounting system or just a guidance on the accounting. Just like they have guidance on how to tax it, if not a standard but a guidance on how to account for it and eventually I do feel that a stand-alone standard is required just to address the economics of bitcoin and cryptocurrencies because it is not exactly a currency, it is not exactly an asset. It exists in some transitional realm between the two."*

Participant 6 said,

*" as I have mentioned before that guidance in regulating is required for better understanding and reflection of cryptocurrency in financial statements and you know it's still in that building phase where we don't have any clear picture of*

*what it can be future, it can be more than a cryptocurrency so right we can just go about it like as the development is going on and similarly on the side ways make financial standards and rules regarding the cryptocurrency."*

Participant 2 had a whole together different outlook for this, who said,

*"I don't think so, I think disclosure requirement are needed. I don't know what would a standard address except increased disclosures and may be treat cryptocurrency like something that is very volatile in stock statement. The problem is that if you look at the users of the financial statements, they want stability in the financial statements, they don't want a lot of volatility in the financial statements, now what an accounting standard would aim to do is recognise losses faster and regulate it more so that the balance sheet value of the asset changes faster, that is the assumption I am going with because that makes sense to be because why would have a different cryptocurrency standard, but then what that does to an investor it puts him off as to quarterly profit is violently declining if he has even decent exposure to cryptocurrencies. The thing is we don't do this if he holds assets, if he holds calls or puts or even shares of a stock. Many stocks stung in the short term but we show them as unrealised in other comprehensive income. That is an additional data point for an investor but if you have a different accounting standard and different requirements for this, it will make the numbers unusable in my opinion and people will just write that part off the financials and look at the financials without that part. So I don't think it solves a problem, that is my reasoning for not having a different standard". Further he added, "see accounting should be seen for who is using it not who is doing accounting, and if you look at it from the users point of view this makes sense".*

Participant 2 said,

*"Definitely yes, if not a universal because there isn't a universal accounting standard you know which is you know no accounting standard which is universal you know USA has its own IFRS and India's has come up with Ind AS. ....There has been a lot of strides in terms of progress in fintech. So definitely it's a new industry altogether, a new leg altogether so definitely the policy makers, the leading accounting institutions who regulate the you the accounting regulatory they have to come up with new set of accounting principles which rules or standards which govern the fintech instrument and can come up with appropriate ways and methods to value them and present them and I think from the perspective of stakeholders of companies for their safe guard it is extremely important for these accounting principles to come because for many listed company is trading in bitcoins I personally feel that is not fair for the stake holders money to be used in a speculative activity. You'd rather pay out as dividends and give their money back because you don't really know.... at least for the listed companies there is an urgent need for an accounting principle because the financial statements are the source from which they derive their information in how their investments are doing and they have a right to know in what investments and how their money is being used, so yes for stakeholders management and for their safety and for being fair to them yes there should be separate accounting principles to correctly show bitcoin transaction and valuation in the books."*

These are two completely opposite point of views on the question. During the research approximately 86% agreed on having a stand-alone standard and 14% had a view that disclosures about the cryptocurrencies should be enough and that we should look at the convenience of the users of the statement and not the makers. Others suggested the ambiguity of the classification of cryptocurrencies in the accounting field needs to be simplified and unified and therefore a proper guidance

or a standard should be bought in for the regulation of the accounting of cryptocurrencies.

Figure: Opinion on Stand-alone Standards



#### 4.5 Can Cryptocurrency be treated as a currency (like any other currency)?

When interviewees were asked this question, (the purpose of this question was to understand whether the name crypto- CURRENCY as they are called can be treated anything like a currency itself?) undeniably and unanimously said NO or NOT YET. Surprisingly, an instrument which is called a currency does not qualify for a currency and therefore, cannot be treated as one in the books of accounts. According to the interviews it can be treated as either of Intangibles, Inventories or investments but not currencies.

Participant 4 said,

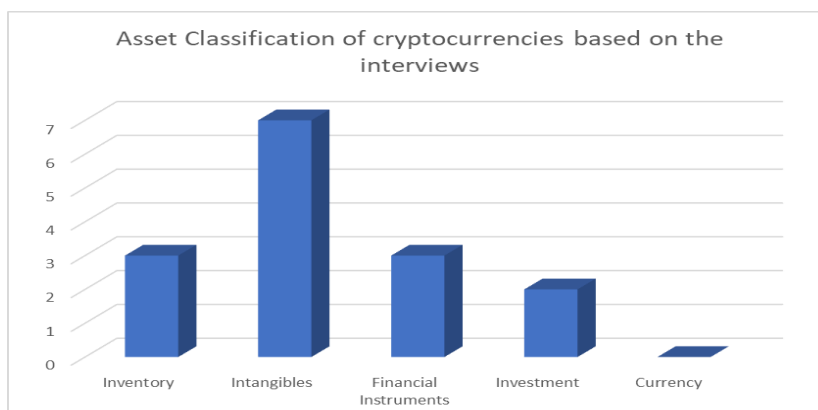
*"I wouldn't say that treating it as a form of currency would be the right approach, but more rational approach would be to treat it as an intangible asset...treating it as a currency in my opinion shouldn't be done because of the legal backing – it is not there. A currency needs to have a legal backing for it to be called an official currency, it is certainly an asset and treating it more as an intangible asset would make more sense. "*

Another respond to this question by participant 5 was,

*"A personal opinion yes we can, but that's not my legal opinion because legally we cannot, Indian constitution allows only one currency i.e. INR to be run of as THE currency, apart from that if you are trading in any foreign currency, those foreign currency should be recognised by their respective countries as their official currency, and cryptocurrency is no-where over there. So basically some people are treating it as a commodity, I know people who are treating cryptocurrency as commodities and intangible assets...there will come a day when cryptocurrency will replace the currencies, but not as of now "*

As we can see in the chart below, none of the interviewees agreed that it can be treated as a currency. "Not yet" was the major response of the interviewees. Although everyone mentioned that it can be treated as an intangible asset, and one of them strongly suggested that it can be treated as an investment.

Figure: Asset Classification of cryptocurrencies



#### 4.6 Views of professionals on what would be the questions the standard should answer when they are set;

Most of the experts agreed to the need to having a stand-alone standard or a particular guidance for accounting of cryptocurrencies. They were also asked which areas were required to be covered when setting a standard for this purpose. They all mentioned Revenue recognition issues, valuation issues, taxation issues and asset classification issues.

Participant 1 answered,

*"I definitely think there is an opportunity to clarify, exactly how the cryptocurrency should be treated. Right now there is only two places where it fits- inventories and intangible assets, it doesn't fit in financial instruments, property plant and equipment, cash and cash equivalents, investment property etc; because it has got a quasi-asset and quasi-currency nature, I really do think there needs to be further guidance around how it should be accounted, because I am sure in practice at least, the companies/entities who disclose this information they are not going to have the same accounting policies and same treatment..."*

Therefore, according to the expert- clarification on treatment of cryptocurrencies, asset classification and different set of treatments for different types of holding is necessary.

Another valuable input in regards to this question by participant 4 was,

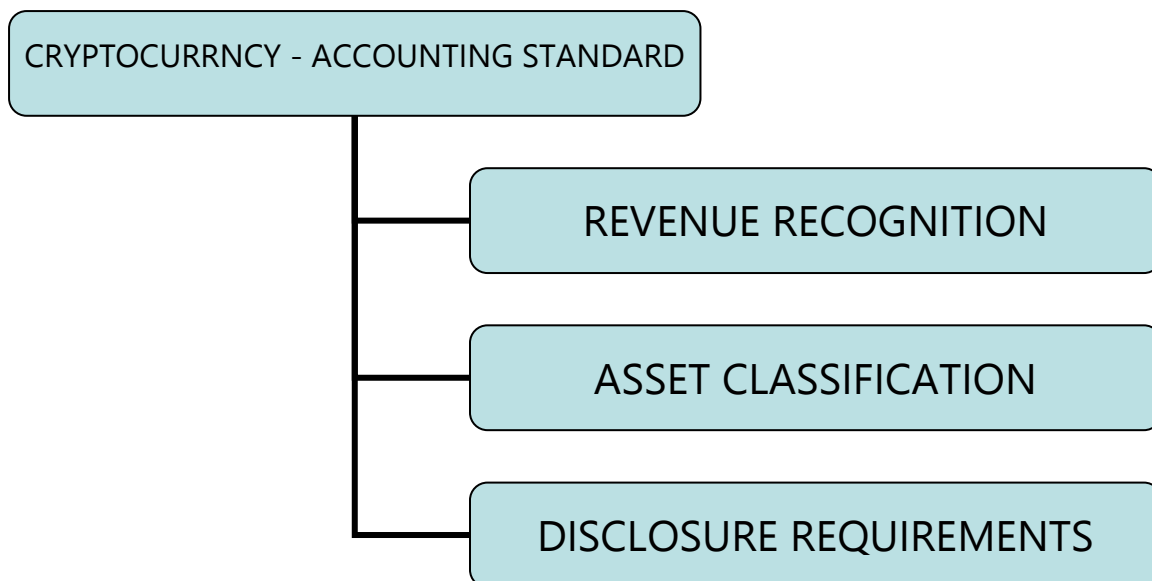
*"First of all the most important thing is, even before the accounting standard has been set there needs to be a functioning mechanism which would validate quite a lot of things, the accounting part would come on the later part but the more important would be the validity, the backing up. Today the numbers that are being shown are not probably the numbers that they are valued at, it is*

*more of a demand supply function. But, coming to the accounting standards if that needs to be set up, a whole a lot of things need to be clarified. First of all the classification of the cryptocurrencies, apart from that the valuation..., also the mining process is a complex procedure and it has a cost attached to it is quite heavy and how to treat these costs incurred for mining... and also how to recognise revenue.... apart from that the valuation of cryptocurrencies need clarification..."*

Participant 2, who suggested in not having a stand-alone standard for cryptocurrencies and also suggested that they can be simply be treated has investments, current or non-current on the basis of their period of holding and intention of holding, said that no new questions needs to be answered about the cryptocurrency accounting but the disclosures must be made compulsory and detailed; he said,

*"So the only think I find to be an issue in the cryptocurrencies is, that it needs to be disclosed properly, now if you see the quarterly statements the 10-K and 10-Q the Americans file, they don't really provide you with the breakup of investments. That is a danger in such volatile investments, so the disclosure norms should be proper and it should show how much cryptocurrencies are owned and what is the average prices of that currencies holdings, what is the current price and whether it has been impaired or not previously. I think disclosures are the main thing here and I don't think anything new needs to come out but it should be disclosed more than the normal investments are disclosed."*

Though there are individuals who do not agree with the stand-alone standard for cryptocurrencies, but suggest that there should be disclosure norms for the users of financial statements and should be made compulsory for such volatile instruments.



#### 4.7. Volatility and Impairment of cryptocurrencies

Volatility is one of the major features of cryptocurrency along with decentralization and no physical existence. Most of the interviewees agreed on the intangible asset classification for cryptocurrencies, as we have seen above. When asked about the impairment of this intangible asset with regards to high volatility, the research received a mixed response to the period within which it should be tested for impairment. Some said that it can be tested everyday if the volatility feature is considered but it is not feasible to test an asset for impairment every day and therefore further guidance is required. Some denied that cryptocurrencies should ever be tested for impairment as there won't be any ***proof of permanent decline*** in the value of the currencies and one of the experts suggested to test it according to the existing policies of the company i.e. yearly, six-monthly or quarterly.

One of the participants (participant 2) who understands cryptocurrency as an investment instrument said,

*"if they are accounted as an intangible asset, they have to be tested for impairment every reporting period, that will also depend on the company – if it is a listed company quarterly and if it is an unlisted company six-monthly or yearly..... So my point here is I understand the argument of volatility driving the*

*decision of accounting standards here but the accounting standards needs to be an **all season** accounting standard, tomorrow if the volatility actually reduces and it starts being accepted as a currency then you need to change the accounting standard at that point of time, that is not something I am amenable to, I think accounting standard should have a long term view and it should view it as a class of asset..."*

Another valuable input in regards to this question by participant 5 suggested,

*"I personally feel that impairment is a big no-no in the current assets as well, so impairment is when the asset loses its value completely – according to accounting standards, when the asset is no longer valuable you impair it and bring its value down and it has to be really material. In cryptocurrency we can use the same concept, but cryptocurrency is very volatile, it has not happened yet but bitcoins (cryptocurrencies) can fluctuate crazily, you never know and you cannot guess the next movement of cryptocurrency and impairment being a permanent decrease in value of asset. It is a permanent decrease, so again you can take an analogy of the share market; all the good shares they never go down permanently, similarly cryptocurrency will face the same issue. As on today, from the place we stand now bitcoin/cryptocurrency has a great future, its costlier than any real currency in the world so as of today I cannot see it going down permanently..."*

One of the other responses received for this question by participant 4 was,

*"the volatility there is mainly because of the demand and supply, and you don't have intermediaries that is curbing the volatility as such.... If it is being treated as an intangible asset (which I feel is logical approach) test of impairment would depend on the purpose with which you are holding cryptocurrencies. For example if you are trading cryptocurrency then in that case doing a mark to market loses and realising mark to market gains would in itself test for*

*impairment (as you will be recognising it in the profit and loss in the period for which you incurred the gain or loss) and another individual who is holding it as an investment or for long term in nature then probably testing for impairment on periodical basis say every three months or six monthly or yearly would be a logical approach. And testing for impairment for such assets is all the more important because the value of these assets change significantly... "*

Participant 1, mentioned all the types of asset and stated how cryptocurrencies can be classified as intangible assets and cannot be considered under any other asset criteria, said,

*"So assuming that, it is recognised as an asset the whole thing is, it can be tested for impairment under IAS 36 and it comes back to what is the economic rationale, if you are holding it as an investment, which actually doesn't meet the definition of financial instrument and it cannot be PPE because no physical form, it can't be investment property for IAS 40 because it is not land or building and it is not cash or cash equivalent and assuming it is treated as an intangible asset I think we then have to go back to the what's the point of financial reporting? -to provide decision making information, now if you are doing to impair it you, what are you going to do about any increase in the value, are you going to be measuring it through revaluation model? If there is decrease – you will impair it but increases is going to be recognised as a revaluation gain through ~OCI and having seen the levels of volatility surely doesn't make sense to be presenting these massive fluctuations and this impairment one day and a gain the next day and then gain and impairment again. We can show the volatility but it just depends on who are the users of financial statements, if the economic rationale links to the volatility then yes you would need to provide that information which is useful, but if you merely as an entity are holding it as an investment for capital appreciation then does it really provide any decision making information to be showing volatility through a re-value model or would*

*it be more sensible to use cost model. So I think it is the link between economic rationale and decision useful information, becomes a key as to then what is the business model and how are we using it then to how we account for cryptocurrency and a subset of that would be how do we show the volatility."*

Hence, Impairment testing issue is subjective in nature. It will differ from cryptocurrency to cryptocurrency, from entity to entity and would also differ as per the nature of holding. It will not only link to the economic rationale but also to the business model of the entity which will drive whether cryptocurrencies should be impaired or not. It will depend on the nature of holding by the entity, it could be an inventory or an investment or an intangible asset. Therefore, if it is recorded as an intangible asset it can be impaired and if not, it should not be impaired.

#### 4.8. Can the cost incurred in Mining of cryptocurrencies be considered as a Research and Development expenditure?

When classifying the cryptocurrencies as intangibles, the cost incurred in mining of one cryptocurrency is relatively high. The experts were asked if these expenses can be treated as research and development expenditure in the financial statements. This particular question did not receive exact responses, but it can only be concluded that a set of guidance will be required to treat the costs of mining a cryptocurrency.

Participant 5 said,

*"Definitely not research, but it can surely be treated as development because research is for a product which you don't have it in your hand right now but you are trying to find and development is when you have your product and you are just trying to make it feasible. So, basically when you mine a bitcoin you are technically trying to create a block first, that's the concept.... I would say it is a development cost not a research cost."*

Another valuable input in regards to this question by participant 1 was,

*"I think that would be fairly difficult to prove from the side of typical research and development that results in a design under trademark laws or a patent or a prototype that is something that is an intellectual property that is an output of research and design process. Whereas, mining a cryptocurrency the output, **firstly there is no guaranteed output**, because of the competition and factories that have cropped up where all they do it buy specific hardware for mining purposes, though there is no guaranteed output but if you do successfully complete the proof of work the algorithm for bitcoin specifically and you have been awarded the bitcoin but that doesn't mean that the nature of the bitcoin is that of a prototype or design or patent, and so while the bitcoin may be intangible and be considered as an intangible asset those expenses incurred, I don't think they can be called as a research and development expenses but obviously under IAS 38 any expense for research purposes is expensed through the income statement but then it relates to development expense from the design phase onwards it is capitalised and here I think, bitcoin is an asset but not something that is arising from research and development....therefore it can be considered as intangible asset but not an intangible that is researched or developed. "*

The treatment of cost, therefore, is a grey area for most of the accountants and clearly a further guidance in a regulated form is required for better consistency and comparability.

4.9. How can cryptocurrencies be distinguished between long term and short term assets? ( Non-current or current asset) or is it possible to distinguish between long term and short term asset?

This question was asked to the interviewees and there was rather a simple response to this question. The answer was on the basis of period of holding and intention of holding of the crypto-asset. i.e. the intention of holding must be checked along with the holding period to classify further into non-current or current asset.

Participant 1 mentioned,

*"I think it is possible as long as you refer back to **economic rationale and the business rationale** for actually holding these cryptocurrencies, as an asset is I am an exchange then it is pretty much my inventory, it is what I buy and sell but then we know inventory is generally classified as current asset and where-as if it is just an investment from the perspective of the entity who is holding cryptocurrency as an intangible investment then showing it as a current asset we must check if it has the same liquidity as inventory and as trading stock as cash and cash equivalent which are regarded as more liquid than non-current assets and it would be hard to argue that it has the same liquidity profile as cash or inventory and then you would want to say that it is more non-current in that perspective..."*

Participant 2 mentioned the intention of the holding by saying,

*"See now there are two things here, one is period of holding and secondly is why does the company have the cryptocurrency. If the company has the cryptocurrency as an asset where it believes it is a **hedge against its dollar holding in the long term** (if you see the libertarian school of thought is that something like this will eventually take over the currencies of the world and if the company thinks buying a certain amount of cryptocurrency is a certain amount of hedge) then it has to be a long term investment. While on the other hand you or dealing in cryptocurrency or you are receiving them as a payment and your revenue side and cost side both mention cryptocurrency which means you are using it as a currency then it should be in the short term (current asset) as part cash and cash equivalents under current investments and the intention of holding matters there."*

These were the basic responses received from all the respondents; mentioning period of holding and intention of holding should be considered before classifying a

cryptocurrency as current or non-current. Economic and business rationale are different words used to say intention of holding. Only new thought mentioned during conversing about current or non-current asset classification was, a hedge for the risk of holding the normal denomination currency in the long run.

4.10. How can one distinguish between payment received or asset received? or How can we confirm if one has gotten title and control of this particular asset?

As mentioned in the introduction part of chapter 4, all respondents fairly had good depth of knowledge in terms of blockchain; this question was asked to check if there is a possibility to verify the ownership of cryptocurrency or ascertain the reason of receipt of cryptocurrencies. It is important in accounting to know the reason for receipt of such an asset or currency as the reason will determine the accounting treatment; also how can the ownership or control be verified without which it cannot be accounted for in the entity's books of accounts.

The answers received for this particular question were technical and explained the trail of transactions in the block and use of trails in determining if it is a payment or a reward from mining.

Participant 1 mentioned,

*"This ties back to the concept of pseudonymous, it is effectively the concept where if we compare the cryptocurrency to say for e.g. cash, if one makes a payment in cash for a good or service, no one can trace those notes back to me so that's why we say like a cash transaction is anonymous by its nature because you can't trace a normal rupee note to an individual but here with the cryptocurrency there is a wallet address which means the transaction is not completely anonymous, it has some anonymity that's why its pseudonymous. Now that anonymity (there's a paper I read ) that actually depending on how you transact there is sort of an audit trail you leave on the blockchain, the*

*transaction log that obviously cannot be tampered with and also cannot be changed with enough investigative work it can eventually be traced back to an individual because the entry point into the cryptocurrency eco-system is through an exchange I know in South Africa the exchanges here require identification documents to be provided to the exchange before you can transact, therefore the exchange knows exactly who is making the transaction and then it knows exactly what cryptocurrencies are bought which then go into the wallet then I transact semi-anonymously using my wallet address and with enough investigation that can be traced back to me,"*

All the respondents mentioned the trail of transactions left on the blockchain, with the help of which we can identify where the cryptocurrency is coming from and if it has been mined or received as a payment via another wallet address. Therefore, with enough investigating tools and means one can trace back to the trail of transactions and can be verified for the purpose of accounting and the question of asset or payment could be answered using the blockchain.

One of the participants mentioned about the verification of the trail and ownership that,

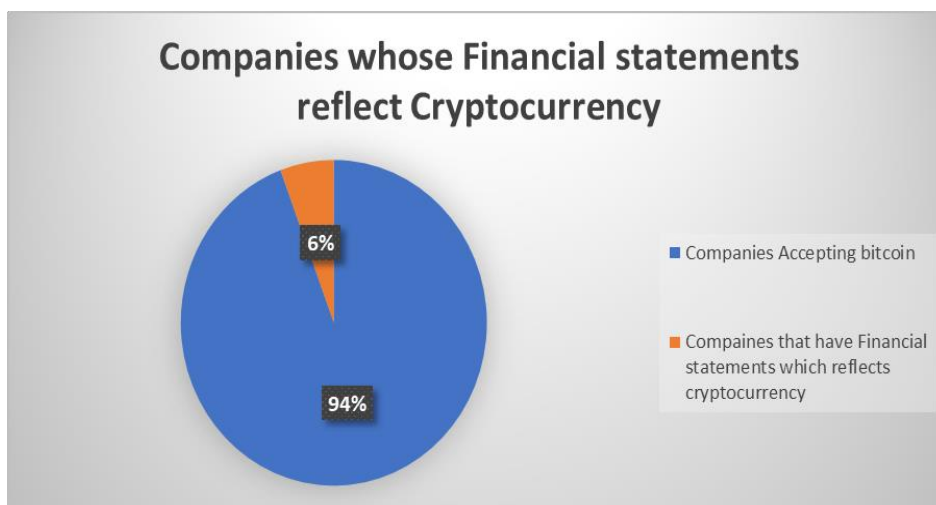
*"this is the job of the auditor, when you audit the financial statements of the company and they tell you that the company has xyz million dollars in mutual funds, who work in audit they check the ownership by the folio number, documents and the DMAT account. Everything is checked, reliance has to be placed on the auditor for that."*

#### 4.11. Research: Financial Statements of Companies accepting Bitcoin as a payment

This research included a review of approximately a hundred financial statements, of companies that accept bitcoin (the most famous cryptocurrency) as a payment (Walters, 2018). The finding of this research was only 6% (i.e. 6 financial statements)

of the companies that accept cryptocurrency as a payment had reflected Cryptocurrency in their financial statements. Following are the six companies that reflected cryptocurrency in their financial statements:

- 1) Overstock.com ('OverstockForm10K03152018.pdf', 2018)
- 2) Winklewoss Bitcoin Trust (*Amendment No.8 to Form S-1*, 2017)
- 3) Bitcoin Investment trust (Bitcoin group SE) (*bitcoin\_group\_se\_geschaeftsbericht\_2017\_EN.pdf*, 2017)
- 4) BTCS.inc ('btsc.inform10-k.pdf', 2017)
- 5) MGT Capital investments.inc (*AMEX\_MGT\_2017.pdf*, 2017)
- 6) Chineseinvestors.com INC ('chineseinvest\_10k-053117.pdf', 2017)



This research states that only 6% of the companies who accept bitcoin/cryptocurrency as a payment are actually reflecting cryptocurrency in their financial statements. The reason that most of the companies do not show cryptocurrencies in their financial statements could only be the lack of knowledge in respect to accounting for cryptocurrencies. If there was a guidance present on how to account for cryptocurrencies in the books of accounts, at least 50% of the

companies would have reflected cryptocurrencies in their financials. When a few companies were contacted on why they do not show any cryptocurrencies in their financials, the answer received was rather shocking, "Our accountant asked us to immediately convert the cryptocurrencies in the normal currency denominations or by the end of the reporting period." This only states further the lack of proper guidance on cryptocurrency accounting could be one of the reasons behind non-disclosures.

Thus, this research states that a further guidance would be of immense significance in the area of accounting for cryptocurrencies, as the usage of digital currency would only increase in the foreseeable future, and with this growth to enable comparability and consistency rules must be formed for the betterment of the users of financial statements.

This question was asked to only one participant in the flow of the conversation, it wasn't on the question list, although the researcher mentioned the statistics of reflection of cryptocurrencies in the financial statements, i.e. only 5-6% reflect cryptocurrencies in their financials out of which 4% are cryptocurrency exchange company and didn't have an option but to show cryptocurrencies as inventory etc and participant 1 answered saying,

*"yes it is their inventory so they have to show. So it is not separately disclosed I mean I think; given, the principle of financial reporting would be to provide useful information in this sense their dealing in cryptocurrencies the payments that are accepted by other trading companies could be immaterial, we might not talk about the concept of materiality anymore but are the users really interested in seeing the cryptocurrency transactions separately disclosed and mainly the amounts, I personally would be interested but are the majority of the stakeholder interested in this information, obviously like u said with exchanges they deal in cryptocurrency, it is their inventory therefore they have to show it.*

*the argument with the rest could be the information being immaterial to the users and doesn't really impact the decision of the users. It could not be a relevant information, but it definitely ties back to the very young or youthful nature of bitcoin ecosystem of cryptocurrency so it really only be properly around for 4-5 years and it has been in the main stream for only about 3 years so the eco-system of cryptocurrency is very young at this stage which means liquidity is not as much as the fiat currency, but as we go forward in time with the technological advancement of cryptocurrency, I think in the future it is going to be seen the eco system of cryptocurrency will mature which means greater adoption, and for those companies it would be the point of why haven't you disclosed this information as it becomes more material to users and investors, so that could be an argument".*

#### Treatment of cryptocurrencies in the financial statements

**Overstock.com:** Summary of accounting policies followed by overstock.com in accounting for cryptocurrency; Cryptocurrency Holdings are valued at lower of cost or market value. On Interim basis, it recognises decrease in value of the asset (prudence concept) and shows increase in the value at later dates which do not exceed the previously recognised losses. It carries the gains and losses via other income if realised on sale of cryptocurrency.

**Bitcoin Investment Trust:** Bitcoins are held by the custodian on behalf of the Trust and for the purpose of financial statements are carried at fair values; fair values are values on the bitcoin exchange at 4p.m (New York Time) on the date of valuation.

All other Financial statements do not reflect any other material information about how the Cryptocurrencies are accounted for in the financial statements. They only mention the definitions and business model. Also, *"Bitcoins are held by the custodian on behalf of the Trust and for the purpose of financial statements are carried at fair*

*values; fair values are values on the bitcoin exchange at 4p.m (New York Time) on the date of valuation"* this is a common statement passed in all the financial statements.

There could be two reason for non-disclosures in the financial statements as researched above,

- Lack of guidance/clarity in terms of accounting for cryptocurrencies or
- The information could be immaterial to the users of financial statements.

## Chapter 5: Conclusions and Recommendations

### 5.1 Introduction

As outlined in the introduction, the purpose of the thesis is to find current problems in regards to accounting for cryptocurrency. The research focuses on the views on accounting and finance professionals about the current scenario of the accounting for cryptocurrencies and what would be the asset classification as per the current accounting norms also whether or not new set of accounting standards are needed for simplification of accounting for cryptocurrencies. The experts also echoed these requirement of having a proper guidance for accounting for cryptocurrencies. Experts in majority not only agreed that stand-alone standard is required but also mentioned important points about what should be answered by the standards. They discussed the confusion of asset classifications and mentioned rationales to go about it.

### 5.2 Conclusions

In this thesis, conclusions are made on the basis of the responses received from the experts and the literature review. In this thesis, conclusions are made point by point in order to have a better perspective about the topic. The points discussed in chapter 4 would be referred here with the same point number to reference the conclusions on the particular head points and make it easier for the readers to conclude each analysis. This research has core accounting questions and the conclusions are in terms of accounting.

### 5.3 Conclusion: Reasons for non-acceptance

As we can see in the previous chapter, point 4.3, there are various reasons for non-acceptance of cryptocurrencies the world. Namely;

- a) Risk of data security
- b) Risk of data breach
- c) Risk of hacking

- d) Lack of legal backing
- e) Lack of transparency and reliability
- f) Volatility
- g) Misuse; Tax evasion, money laundering
- h) Threatens the existence of the banks
- i) Conservative approach of the government (like India and China)
- j) Negligence on the part of government in accepting this technology
- k) Speculative in nature
- l) Government losing its control on money supply.

These were all the reasons collectively mentioned by all the experts and the most mentioned was the government losing its control on money supply, the next was volatility and negligence on the part of the government in accepting new technologies. It was said that few governments are taking a conservative approach towards the acceptance of blockchain technology as they would lose their power.

Therefore, we can conclude there are many issues that needs to be looked into before making cryptocurrency legal (in some countries) and before it is largely accepted by mass population.

#### 5.4. Conclusion: Need of a stand-alone accounting standard for cryptocurrencies

As we have seen above in 4.4, we realise 86% of the experts suggested the need to having a clarification or a stand-alone standard for the purpose of accounting for cryptocurrencies. The remaining 14% were of a view that detailed disclosures are more than enough to give the users of financial statements material information about the cryptocurrency holding and to not increase the compliance requirements for the accountants. This area concludes the need of a stand-alone standard for cryptocurrency accounting so as to clarify all the confusions that are created in asset classification, revenue recognition, valuations and appropriate accounting for profits and losses in the books of accounts. This would be helpful for comparability of

financial statements and consistency is record making which is the final aim of accounting standards as a whole.

One of the other experts; this research would like to mention, commented, *"Definitely yes, if not a universal, because there isn't a universal accounting standard, you know USA has its own IFRS and India's has come up with Ind AS. But yes as the world is moving towards fintech, as it is embracing it I am sure US and Europe are way more mature countries in terms of fintech acceptance and India is getting there. There has been a lot of strides in terms of progress in fintech. So definitely it's a new industry altogether, a new leg altogether so definitely the policy makers, the leading accounting institutions who regulate the you the accounting regulatory they have to come up with new set of accounting principles which rules or standards which govern the fintech instrument and can come up with appropriate ways and methods to value them and present them"*.

The area of recording transactions via cryptocurrencies in the books of accounts is a grey area and therefore needs clarification. The thesis concludes the need of a stand alone accounting standard for simplification of accounting for cryptocurrencies.

#### 5.5 Conclusion: Asset Classification

The corresponding point in the previous chapter is 4.5, which discusses the views of experts on the cryptocurrency being treated as a currency or not. By the comments made by the experts we can see that cryptocurrencies cannot be treated as a currency AS YET. Most of the experts mentioned that treating it like an intangible asset would be a rational approach where as one of them strongly commented on cryptocurrency being an investment tool. Some also mentioned that it can be looked at as inventories for few business models.

As discussed in the literature review, chapter 2, it is seen that the cryptocurrencies largely fulfil the definition of an intangible asset and can also be treated as an

inventory. Right now there are only two places where it fits- inventories and intangible assets, it doesn't fit in financial instruments, property plant and equipment, cash and cash equivalents, investment property etc; because it has got a quasi-asset and quasi-currency nature.

Therefore, this research concludes that cryptocurrencies cannot be treated as currencies as yet due to its features but can be treated as intangible asset or inventories (depending on the business model) or simply an investment.

#### 5.6 Conclusion: Questions that need to be answered while setting a standard

As we can refer to point 4.6 in chapter 4 of the thesis, and that 86% of the experts agree to having a stand-alone standard for accounting for cryptocurrencies, they were asked what clarifications would be need to be mentioned in the standards. To which most of them answered mentioning that all the clarifications are needed to be given by standard – from asset classification to revenue recognition to disclosure norms and also valuation. One of the experts suggested having experts for valuation of this type of asset as various risk factors needs to be considered before placing a value to the cryptocurrencies and mark to market won't be enough for valuation as the risk factors are numerous and high in number. Summarising the answer, following points need to be clarified in the standard while setting it:

- a) Revenue Recognition
- b) Asset Classification
- c) Disclosure norms
- d) Valuation and measurement rules.

#### 5.7 Conclusion: Impairment of cryptocurrency due to high volatility

Referring to point 4.7 in chapter 4, it can be concluded that Impairment testing issue is subjective in nature. It will differ from cryptocurrency to cryptocurrency, from entity to entity and would also differ as per the nature of holding. As impairment refers to

permanent decline in value of assets, we should consider whether the decrease is permanent in nature or just a market movement before considering it as impairment loss.

While talking about period of review for impairment testing, it can depend on the policy of the company holding the cryptocurrency whether yearly, six monthly or quarterly. The argument of volatility driving the decision of accounting standards and impairment here but the accounting standards needs to be an **all season** accounting standard, tomorrow if the volatility actually reduces and it starts being accepted as a currency then you need to change the accounting standard at that point of time, that is not something not feasible and accounting standards should have a long term view and it should view it as a class of asset and volatility must not drive the impairment decision of cryptocurrency.

#### 5.8 Conclusion: Research & development expenditure

As mentioned in the previous chapters, including literature review and data findings, as previously established that cryptocurrency mining incurs costs. Interviewees were asked how should the cost be treated in the books of accounts, if cryptocurrency is closest to being an intangible asset, could the costs be treated as Research and development? Some agreed for it to be considered as a development cost but not research and some stated that it cannot be considered as a research or development costs as there is no guaranteed output and also it does not end up like other intangible assets prototype like trademarks or patents.

Therefore, generically stating it cannot be considered as a Research and development costs, and the costs thus incurred in mining must have a correct treatment which shall be prescribed by the accounting boards while setting up standard for cryptocurrency or providing clarifications via guidance notes.

### 5.9 Conclusion: Distinguish between long term (non-current) and short term (Current) crypto-asset.

As mentioned above, in the corresponding point 4.9 under chapter 4; this question was asked to the interviewees and there was rather a simple response to this question. The answer was on the basis of period of holding and intention of holding of the crypto-asset. i.e. the intention of holding must be checked along with the holding period to classify further into non-current or current asset. Referring to the economic rationale and the business model rationale will be of most importance while deciding the non-current asset & current asset differentiation of crypto-asset.

### 5.10 Conclusion: Confirmation of title received and distinguish between payment received or asset received

As mentioned under chapter 4 point 4.10, this question was asked to check if there is a possibility to verify the ownership of cryptocurrency or ascertain the reason of receipt of cryptocurrencies. It is important in accounting to know the reason for receipt of such an asset or currency as the reason will determine the accounting treatment; also how can the ownership or control be verified without which it cannot be accounted for in the entity's books of accounts. The conclusions made under this section is, yes with additional efforts for investigation the trail can be found out; resulting in the knowledge of movement of cryptocurrency through the block as the transaction cannot be tampered or altered in the blockchain. Also, the transactions are not completely anonymous they are semi-anonymous i.e. pseudonymous and the exchanges via which transactions take place always will have the identifications of the individuals who are making transactions via them. Therefore, it would not be extremely difficult or impossible to identify a trail of transactions in order to identify difference between assets received and payment received.

### 5.11 Conclusion: Financial statements that reflect bitcoin/cryptocurrency

Out of the six financial statements, only one discloses the treatment given to cryptocurrency in the books of accounting in a detailed form. Overstock.com's financial statements state clearly how they value their holdings in cryptocurrency, How they recognise gains and losses in the interim and how they carry income through other income, they also mention details about the consolidation of financial statement with respect to cryptocurrencies. All the other companies lack clarity and disclosure of material information about cryptocurrencies.

Therefore, the research concludes; for consistency and comparability of financial statements few norms and rules must be set in order to enable correct or uniform treatment and disclosures in the financial statements about cryptocurrencies.

Although the area is less researched upon, it carries a lot of potential with respect to guidance and clarification by experts so as to avoid future hassle about cryptocurrency accounting, the accounting board must come up with clarifications or a stand-alone set of accounting standards before Cryptocurrencies takes over the world and is accepted at large.

## Chapter 6: Self-Reflection on Learning & Performance

During our earlier modules we had been made familiar with four learning style, activists, reflectors, theorist and pragmatists. An activists would learn by doing, and get into the action and experience of what they are learning. A theorist would be more involved behind the theory of the action than being a part of the action. A pragmatist would want to know how to put what they are learning into practice in the real world. A reflector would learn by observing people and thinking about situations. I would like to explain my learning style using these four learning styles.

I am more of a pragmatist as I wanted to know how could be apply the accounting standards we initially learned in the previous modules in cryptocurrency accounting and therefore, I went ahead on with the topic I selected as it would help me use my theories learnt and give me a practical outlook towards the concepts. The following are the events which helped me end up in this particular topic.

### **Pre Planning phase: MSc in International Accounting and Finance.**

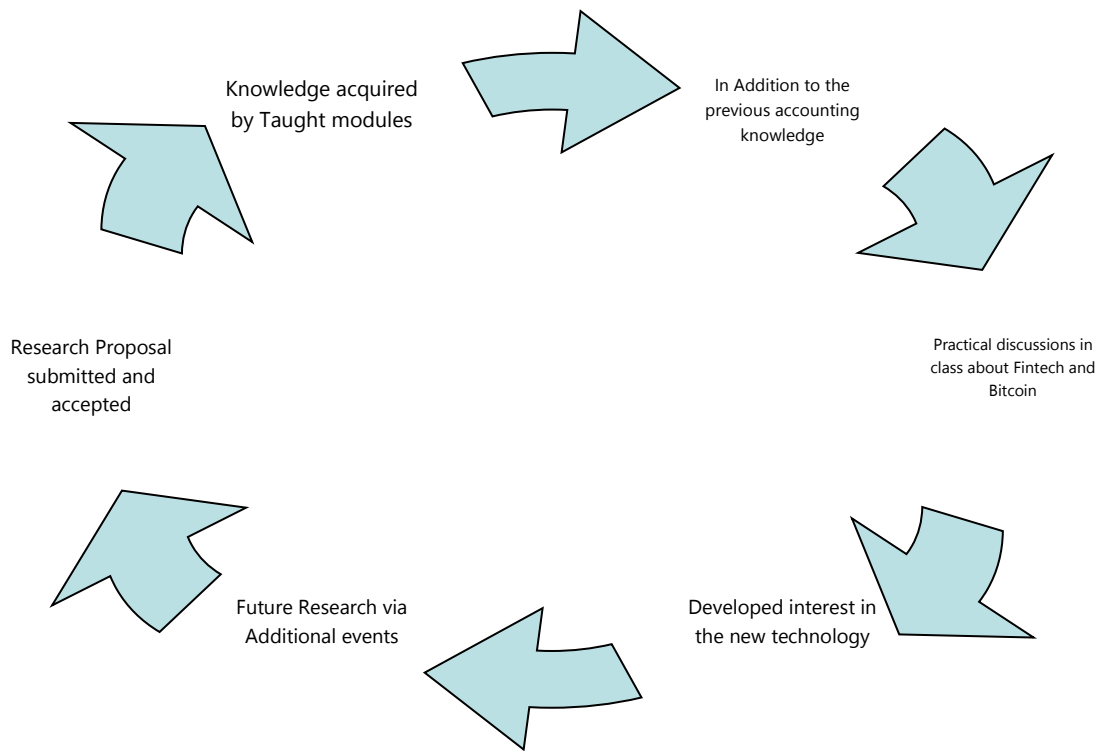
#### Modules Covered

- International Financial Reporting
- Advanced International Financial Reporting
- Corporate Financial Management
- Treasury Risk Management
- Strategic Performance Management
- Operation and Governance of Financial Markets
- Quantitative Analysis.

Along with all the above modules, we were taught Research Methods, Academic Writing and personality development as modules which help us with our thesis and understanding ourselves better. Therefore, the course structure was such that helped or should I say forced us to think from the start of the course about our thesis and what we want to do after the course is finished. In the module of personality development I realised (using different tests) that I am a pragmatic learner along with being an activist. In other learning modules I realised that I have strong interests in Accounting as a subject and that was the particular time when Bitcoin was raging. And all I could think about was, "*how would I account for it?*" not should I be investing and gaining? Therefore, since November 2017, I was reading about cryptocurrencies and how it exactly matters to accountants (which I aim to become in the near future). As I read more, my interests grew in that particular topic, the discussions with my professors started to get longer in view of the topic I selected for my thesis. This comprised of my pre-planning phase: thinking, reading, discussions with professors and learning.

## **Planning Phase**

Planning phase was not bound by me being pragmatic alone. It was a mixture of all the four learning styles. There were times I reflected on my topic, questioned if I would be able to do it and how? As the material available was limited. Also I was new to the concept of writing a thesis. I was required to not waste time, be on my toes and finish my writing, so as to have the time to review and rewrite. I knew I was capable of doing this, I just had to not give up however daunting it got. I as an individual learnt a lot of skills during this course. I learnt excel better, I learnt referencing the Harvard style, I learnt to multi-task, I learnt professional presentation few of which were uncharted territory for me. The biggest challenge was 20000 words thesis without much previous literature review, which I have seemed to overcome as this gets submitted. This has made me a critical thinker, helping me critically analyse and focus on things. The following diagrams explains the flow clearly.



## Action Phase

Action phase involved a lot of writing, reviewing and re-writing. Myself being a pragmatist and activists was very useful during the actual action phase. I was managing time better than ever, I was working with deadlines and being on track required a lot of work. This phase involved reading, researching, interviewing, writing, analysing and concluding. I effectively tackled multiple chapters at single given time. This also included setting time for interviews, requesting the interviewees, setting up recording for the interviews and transcription of them all. I faced a lot of rejection in terms of interviews because of the topic I chose, therefore, I want to thank all the respondents to accept this interview along with being so supportive. During this time I received a lot of encouragement from my supervisor (Thank you sir), without which this thesis wouldn't be possible. I embraced fear of rejection and didn't give up, this whole process has not only helped me evolve as a normal individual to becoming a professional but has also given me the opportunity to personally grow, which helps me a lot in the long run. The formulation of questions which answered the research

questions, the flow of the questions and actually conducting interviews was a nerve wrecking process. I was nervous in conduction the initial interviews but after the first two, I became more confident and comfortable with the process. I have tried my best to deliver a quality product of work. Then came formulating analysis and coming to conclusions for the thesis, which was rather the easier phase when compared to collecting primary data.

### **Future Planning Phase**

One of the key driving force in selecting this particular topic for the Masters was the goal of becoming a Chartered Accountant in the near future. Accounting being my area of sheer interest this was the best I thought which would combine my interest and recent development in finance. i.e. ACCOUNTING + CRYPTOCURRENCY. It was something that would give me the time to read more about my interests and learn about new developments. Combination of Interests and learning, which was my end goal, to learn something new. The thesis phase gave me a confirmation that I ant my future in accounting and become a professional Chartered Accountant with a hint of technology as my unique selling point. I have acquired a job in Bank of Ireland, thanks to the Master's degree and all the skills I have learnt during the whole course. The knowledge and experience gained in something which has given me immense confidence to look upward for a greater career path.

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## Chapter 8: Appendices

### Appendix #1 An extract from Overstock.com's Form 10-K:

#### Cryptocurrencies

"We hold cryptocurrency-denominated assets ("cryptocurrencies") such as bitcoin and we include them in Prepaids and other current assets in our consolidated balance sheets. Our cryptocurrencies were \$1.5 million and \$307,000 at December 31, 2017 and 2016, respectively, and are recorded at the lower of cost or market based on an average unit cost.

On an interim basis, we recognize decreases in the value of these assets caused by market declines. Subsequent increases in the value of these assets through market price recoveries during the same fiscal year are recognized in the later interim period, but may not exceed the total previously recognized decreases in value during the same year. Such unrealized gains or losses resulting from changes in the value of our cryptocurrencies are recorded in Other income, net in our consolidated statements of operations. There were no significant unrealized gains or losses on cryptocurrencies for the years ended December 31, 2017, 2016 and 2015.

Gains and losses realized upon sale of cryptocurrencies are also recorded in Other income, net in our consolidated statements of operations. We occasionally use our cryptocurrencies to purchase other cryptocurrencies. Gains and losses realized with these non-cash transactions are also recorded in Other income, net in our consolidated statements of operations and are also presented as an adjustment to reconcile net income (loss) to net cash provided by (used in) operating activities in our consolidated statement of cash flows. Realized gains on sale of cryptocurrencies were \$4.8 million (including \$2.0 million of non-cash gains) during the year ended December 31, 2017. There were no realized gains or losses on sale of cryptocurrencies during the years ended December 31, 2016 and 2015".

*“any losses or issues we may encounter as a consequence of accepting or holding bitcoin or other cryptocurrencies, whether as a result of regulatory, tax or other legal issues, technological issues, value fluctuations, lack of widespread adoption of bitcoin or other cryptocurrencies as an acceptable medium of exchange or otherwise*

***Our decision to accept and hold cryptocurrency, such as bitcoin, may subject us to exchange risk and additional tax and regulatory requirements.***

In January 2014, we began accepting bitcoin as a form of payment for purchases on our website, and we now accept approximately 50 different cryptocurrencies. Neither bitcoin nor any of the other cryptocurrencies that we accept are considered legal tender or backed by any government, and bitcoin and other cryptocurrencies have experienced price volatility, technological glitches and various law enforcement and regulatory interventions. In September 2014, we began accepting bitcoin internationally. The use of cryptocurrency such as bitcoin has been prohibited or effectively prohibited in some countries. If we fail to comply with regulations or prohibitions applicable to us, we could face regulatory or other enforcement actions and potential fines and other consequences. Our Board of Directors has authorized us to hold, in bitcoin, up to 50% of our sales revenues paid for by customers in bitcoin. From time to time we hold bitcoin and other cryptocurrencies directly, and we have exchange rate risk on the amounts we hold as well as the risks that regulatory or other developments may adversely affect the value of the cryptocurrencies we hold. At December 31, 2017, we held cryptocurrencies with a carrying value of \$1.5 million. We may choose not

to hedge or may be unable to fully hedge our exposure to cryptocurrencies and may at times be unable to convert cryptocurrencies to U.S. dollars. We could suffer significant monetary losses if the cryptocurrencies that we hold decline in value. If any regulatory authority asserts that we require a license or other regulatory approval to conduct business or own an interest in other businesses involving

cryptocurrencies, it could have a material adverse effect on our financial results and business.

***The prices of digital assets are extremely volatile. Fluctuations in the price of digital assets could materially and adversely affect tZERO's business.***

The prices of cryptocurrencies, such as Bitcoin and Ether, and other digital assets have historically been subject to dramatic fluctuations and are highly volatile. A decrease in the price of a single digital asset may cause volatility in the entire digital asset and security token industry. For example, a security breach that affects purchaser or user confidence in Bitcoin or Ether may affect the industry as a whole. This volatility may adversely affect interest in and demand for the Token Trading System, which would materially adversely affect tZERO's business" ('OverstockForm10K03152018.pdf', 2018).

## [Appendix #2 Bitcoin investment trust](#)

### **VALUATION OF BITCOINS AND DEFINITION OF THE TRUST'S BITCOIN HOLDINGS**

The Administrator will evaluate the bitcoins held by the Trust and determine the Trust's Bitcoin Holdings in accordance with the relevant provisions of the Trust Documents. The following is a description of the material terms of the Trust Documents as they relate to valuation of the Trust's bitcoins and the Trust's Bitcoin Holdings calculations.

On each business day at 4:00 p.m., New York time, or as soon thereafter as practicable (the "Evaluation Time"), the Administrator will evaluate the bitcoins held by the Trust and calculate and publish the Trust's Bitcoin Holdings. To calculate the Trust's Bitcoin Holdings, the Administrator will:

Determine the Bitcoin Index Price;

Multiply the Bitcoin Index Price by the Trust's aggregate number of bitcoins owned by the Trust as of 4:00 p.m., New York time, on the immediately preceding day;

Add the U.S. Dollar value of bitcoins receivable under pending Creation Baskets, if any, determined by multiplying the number of such Creation Baskets by the Bitcoin Basket Amount and then multiplying such product by the Bitcoin Index Price;

Subtract the U.S. Dollar value of the bitcoins constituting the Combined Fee, determined by multiplying the number of such bitcoins by the Bitcoin Index Price;

subtract the Extraordinary Fees, if any; and

Subtract the U.S. Dollar value of the bitcoins to be distributed under pending Redemption Baskets, determined by multiplying the number of such Redemption Baskets by the Bitcoin Basket Amount and then multiplying such product by the Bitcoin Index Price.

In the event that the Sponsor determines that the primary methodology used to determine the Bitcoin Index Price is not an appropriate basis for valuation of the Trust's bitcoins, the Administrator will utilize the cascading set of rules as described in "Overview of the Bitcoin Industry Market—Bitcoin Value—The Index and the Bitcoin Index Price."

The Sponsor will publish the Bitcoin Index Price, the Trust's Bitcoin Holdings and the Bitcoin Holdings per Share on the Trust's website as soon as practicable after its determination. If the Trust's Bitcoin Holdings and Bitcoin Holdings per Share have been calculated using a price per bitcoin other than the Bitcoin Index Price for such Evaluation Time, the publication on the Trust's website will note the valuation methodology and the price per bitcoin resulting from such calculation.

The determinations that the Sponsor and the Administrator make will be made in good faith upon the basis of, and neither the Sponsor nor the Administrator will be liable for any errors contained in, information reasonably available to it. Neither the Sponsor nor the Administrator will be liable to DTC, Authorized Participants, the Shareholders or any other person for errors in judgment. However, the preceding liability exclusion will not protect the Sponsor or the Administrator against any liability resulting from gross negligence, willful misconduct or bad faith in the performance of their duties

### [Appendix #3 Extract from all the other Financial statements](#)

Bitcoin Value Bitcoins are an example of a Digital Asset that is not a fiat currency (i.e., a currency that is backed by a central bank or a national, supra-national or quasi national organization) and are not backed by hard assets or other credit. As a result, the value of bitcoins is determined by the value that various market participants place on bitcoins through their transactions. Exchange Valuation Due to the peer-to-peer framework of the Bitcoin Network and the protocols thereunder, transferors and recipients of bitcoins are able to determine the value of the bitcoins transferred by mutual agreement or barter with respect to their transactions. As a result, the most common means of determining the value of a bitcoin is by surveying one or more Bitcoin Exchanges where bitcoins are publicly bought, sold and traded (i.e., the Bitcoin Exchange Market). On each Bitcoin Exchange, bitcoins are traded with

publicly disclosed valuations for each transaction, measured by one or more fiat currencies such as the US Dollar, the Euro or the Chinese Yuan. Bitcoin Exchanges typically report publicly on their site the valuation of each transaction and bid and ask prices for the purchase or sale of bitcoins. Although each Bitcoin Exchange has its own market price, it is expected that most Bitcoin Exchanges' market prices should be relatively consistent with the Bitcoin Exchange Market average since market participants can choose the Bitcoin Exchange on which to buy or sell bitcoins (i.e., exchange shopping). Arbitrage between the prices on various Bitcoin Exchanges is possible, but the imposition of fees and fiat currency deposit/withdrawal policies appears to have, at times, prevented an active arbitrage mechanism among users on some Bitcoin Exchanges. For example, delayed fiat currency withdrawals imposed by Mt. Gox resulted in Mt. Gox trading at a premium of up to 10 to 20 percent for several months through January 2014. In February 2014, Mt. Gox suspended trading, closed its website and exchange service, and filed for a form of bankruptcy protection from creditors called *minjisaiei*, or civil rehabilitation, to allow courts to seek a buyer. In April 2014, Mt. Gox began liquidation proceedings. Even in the absence of large trading fees and fiat currency deposit/withdrawal policies, price differentials across Bitcoin Exchanges remain. For disclosure on the accounting of Digital Assets, see "Management's Discussion and Analysis of Financial Condition and Results of Operations"

#### Appendix #4 Draft Questions:

- 1) What do you know about Cryptocurrency?
- 2) How do you think cryptocurrency would change/impact accounting?
- 3) (M&A) How many transactions do you know off, internationally that have used BTC as a means?

- 4) Do you think we can treat it like any other currency in financial statements?
- 5) What are the questions would you want to be answered while setting accounting standards? (if you have or know any possibilities to answer these questions; inputs will be valued)
- When do we recognise?
  - how do we measure it?
  - valuation on holding a cryptocurrency
- 6) How do we avoid accounting for unrealised gains or loss on holding of a cryptocurrency?
- 7) Transaction log only records a wallet address and no other identifying information- how would we know that cryptocurrency received for the company or the individual? How can we confirm if one has gotten title and control of this particular asset?
- 8) How do we differentiate between an asset received and a payment receipt?
- 9) As its Volatility is a big feature, when do we test a cryptocurrency/crypto-asset for impairment?
- 10) How do you think we can distinguish between a long term or a short term asset? (current or non- current crypto-asset)
- 11) Why do you think / What are the reasons behind non acceptance of bitcoin/ cryptocurrency? (in few countries like India and China)

12) Costs that are incurred in mining of a currency can it be treated as a R&D expenditure? if a company mines a cryptocurrency?

13) Do you think a stand-alone standard is required to simplify the accounting of cryptocurrency? And Do you think now is the time for introduction of new set of accounting standards which incorporate cryptocurrency?

#### Appendix #5 Interview Transcripts: Participant #1

(At the beginning of all the interviews, introduction about the thesis was provided and basic information about all the interviewees was collected. Only important relevant information has been put in the transcript as audio file submissions of all the interviews has been duly submitted via moodle and as well as to the supervisor)

Me: What would you say about bitcoin/cryptocurrency as a general concept?/What do you know about cryptocurrency?

A: I think cryptocurrencies, they have the characteristics of assets and currencies and they are some form of hybrid element, because some cryptocurrencies are used for medium of exchange for eg -bitcoin being accepted for goods and services where it kind of looks like a currency, where-as on the other hands when you look at people or entities who just invest in cryptocurrencies may be just using it just as an exchange to acquire cryptocurrencies for investment purposes and it doesn't give any resemblance to ac currency so, its more like an asset. It just really depend on the economic usage or economic rationale behind holding or utilising the bitcoin or any cryptocurrency for that matter to determine what it is. And the other thing is bitcoin is the well-known cryptocurrency but there are so many other cryptocurrencies like Litecoin, ripple etc, that may be within the cryptocurrencies you may struggle to distinguish as may be one may look like a currency or one may look like an asset so even among them like technological differences that separate what exactly what they are.

Me: As you might know few countries don't accept cryptocurrencies like they might have regarded them as illegal according to you what would be the reason behind the term illegal for the cryptocurrency? Like india and china these two are two of the biggest economies in the world and still they have not come in terms with cryptocurrencies and why would that be?

A: See obviously the space of cryptocurrency and the very nature of cryptocurrency is that they are decentralized and I think it is the starting point where the government gets very uneasy, so the decentralized nature of cryptocurrencies means they can't easily be controlled by a central bank or central authority, which introduces the concept of pseudonymity, which means basically people who engage in cryptocurrency transactions they cannot be easily identified and because it is not controlled by a central bank they cannot really control like they would control legal tenders. So, governments then somewhat justifiably concerned about the illegal usage of the cryptocurrency, for example we have seen some papers written on money laundering usage and tax evasion usage which then is a concern to governments and I think countries like India and China (I don't exactly know the history of the legalities there but) are taking a very conservative approach and saying that because the bitcoin gives rise to the pseudonymity, and it gives rise to exchange control convention which is another element, because it can leverage the computer network so it can be transferred over borders without reference to the countries exchange control laws they are very concerned about that and have deemed the usage and the exchange themselves illegal which is obviously very conservative view which you contrast that with countries like Singapore or Japan who have put in regulation and legislation to sort of ground the bitcoin in their sense and they are quite open and accepting to it what the caveat that you need to subscribe to the regulation so these are the two instances where they completely ban it like in India and China versus Japan and Singapore which are actually trying and regulate it by accepting it and nurture the economy which sort of interesting dichotomy when you look at how countries are treating cryptocurrencies.

Me: Ya I have been reading about it and I am also seeing that USA is coming up with regulations and they are talking a lot about regulating cryptocurrencies, but that's not the point here, it is a decentralized and a non-regulated currency and that what makes it cryptocurrency

A: yes, ya I mean obviously with the nature the regulations tend to not be on the currency directly, they tend to be around the users like there is a lot of regulation around the exchanges so a cryptocurrency exchange where we pay fiat currency to get a bitcoin the regulation is very much centred around the exchange and then you mentioned the USA, I mean I know they have got IRS has released tax specific guidance around taxing the bitcoin or from any other perspective like from the accounting perspective or other legal or regulatory perspective I haven't come across.

Me: So moving on how do you see the use of cryptocurrency impacting the accounting function, like how will it change/impact accounting as a whole.

A: As in how we do accounting or how the cryptocurrency would be accounted for?

Me: because of the public ledger concept of blockchain which cryptocurrency uses, would it completely change accounting?

A: SO, ya I definitely think, this is more about the block chain than the cryptocurrency itself but if we are looking at the usage of blockchain in accounting sense I definitely think there is a lot of scope to reinvent how we have been accounting because obviously in currently existing systems we talk about the double ledger where as a blockchain system there is a concept of triple ledger accounting which introduces not only the two entries but further information about the transactions which you don't particularly find in a double ledger accounting system and the immutability of the blockchain, the fact that the blockchain cannot be altered unless you have the majority of computing power i.e. more than 50 % in the network because its network distributes the power, the fact that it cannot be tampered with introduces a sense of further confidence in the accounting I suppose because in a company's ledger system we don't know exactly what goes on who has access and who has publicly available that can be tampered but a properly implemented blockchain using some form of like transparency (that's a key word there) would change the accounting function from a stake point of view will make it less opaque and more transparent and from that sense and from the other sense of actually doing physical accounting I think, if you have seen xbrl the companies or suppliers are communicating using the same language if u take all of that and transfer it into a blockchain there is a lot of utility from the automation , because then u introduce the usage of smart contracts where they can regulate a lot of contract terms etc that were needed to be manually input in the system I suppose it can really impact transparency and automation in actually doing accounting function.

Me: as a part of my research I was looking around for cryptocurrencies and how they are accounted for and I realised that there are over 1600 cryptocurrencies and the mcap is close to 37billion (a: it is quite significant) do you think there is a market for 1600 cryptocurrencies or do we need only one? Which was actually the first motive of bringing cryptocurrencies in the picture like having one currency for the whole world which isn't tampered by any government, that was the initial motive to bring cryptocurrency to have one currency all over the world?

A: Ya so, to deal with the first point there are a lot of cryptocurrencies, and noting that a lot of them sort of get rich quick scheme so a lot of hype around the cryptocurrencies lent it-self to fraudulent transactions where people were creating cryptocurrencies for fraudulent means and having these ICOS initial coin offerings for pre-mined the majority of token and have increase in the ....I don't think it makes

sense economically to have 1600 or whatever amount of cryptocurrencies it is not economic there is definitely elements of fraud in this but speaking to one cryptocurrency for the world, that would be great but I think it can be an idealistic view because as it currently stands that each government have their own currency which they choose to regulate it....Something like a global cryptocurrency from where we stand In separate jurisdictions would be impossible for every government to agree to a single currency which then pretty much eliminates the difference in rates and eliminates the difference between developed and developing countries, I think that is definitely the idea single currency but given the political escape I don't think it would be feasible for governments to agree but I do think cryptocurrencies have the technological capability to actually serve as a global currency.

Me: that's a nice input/view , as transaction log has only wallet address and there is no other identifying information, if an individual is receiving cryptocurrency either as a payment for the company or he is receiving it has a personal asset for an individual, how do you think we can differentiate between them?

A: This ties back to the concept of pseudonymous, it is effectively the concept where if we compare the cryptocurrency to say for e.g. cash, if one makes a payment in cash for a good or service, no one can trace those notes back to me so that's why we say like a cash transaction is anonymous by its nature because you can't trace a normal rupee note to an individual but here with the cryptocurrency there is a wallet address which means the transaction is not completely anonymous, it has some anonymity that's why its pseudonymous. Now that anonymity (there's a paper I read ) that actually depending on how you transact there is sort of an audit trail you leave on the blockchain, the transaction log that obviously cannot be tampered with and also cannot be changed with enough investigative work it can eventually be traced back to an individual because the entry point into the cryptocurrency eco-system is through an exchange I know in South Africa the exchanges here require identification documents to be provided to the exchange before you can transact, therefore the exchange knows exactly who is making the transaction and then it knows exactly what cryptocurrencies are bought which then go into the wallet then I transact semi-anonymously using my wallet address and with enough investigation that can be traced back to me, so I think that obviously links back to the previous discussion that's where the governments are concerned about the semi -anonymous nature and the actual work that is required to identify the person, but it should not be considered that it can never be traced back because it can and has been shown to actually be traced back to an identifiable person and so dealing in cryptocurrency is not completely anonymous.

Me: So, volatility being its essential feature, do you think we can test if for impairment for the recognition of losses or profits in financial statements.

A: So assuming that, it is recognised as an asset the whole thing is, it can be tested for impairment under IAS 36 and it comes back to what is the economic rationale, if you are holding it as an investment, which actually doesn't meet the definition of financial instrument and it cannot be PPE because no physical form, it can't be investment property for IAS 40 because it is not land or building and it is not cash or cash equivalent and assuming it is treated as an intangible asset I think we then have to go back to the what's the point of financial reporting? -to provide decision making information, now if you are doing to impair it you, what are you going to do about any increase in the value, are you going to be measuring it through revaluation model? If there is decrease – you will impair it but increases is going to be recognised as a revaluation gain through OCI and having seen the levels of volatility surely doesn't make sense to be presenting these massive fluctuations and this impairment one day and a gain the next day and then gain and impairment again. We can show the volatility but it just depends on who are the users of financial statements, if the economic rationale links to the volatility then yes you would need to provide that information which is useful, but if you merely as an entity are holding it as an investment for capital appreciation then does it really provide any decision making information to be showing volatility through a re-value model or would it be more sensible to use cost model. So I think it is the link between economic rationale and decision useful information, becomes a key as to then what is the business model and how are we using it then to how we account for cryptocurrency and a subset of that would be how do we show the volatility.

Me: That's again a great response, as a part of this thesis I was looking at companies that accept bitcoin as a payment because not all the other currencies have been started to be used as payment method, so I came across 100 companies who accept bitcoin as a payment and I checked their form 10 k or annual returns and out of those companies only 5 companies had actually reflected bitcoin or cryptocurrency in their financials, so only 5% reflect out of a 100 and out of those 5 only one company called overstock.com is the company who sells goods (is a trader) who reflects cryptocurrency in their financials all the other 4 are bitcoin exchanges who have to show bitcoin in their financials. Why do you think other companies who accept bitcoin but they don't show them in the financials.?

A: yes it is their inventory so they have to show. So it is not separately disclosed I mean I think given, the principle of financial reporting would be to provide useful information in this sense their dealing in cryptocurrencies the payments that they accept could be immaterial, we might not talk about the concept of materiality

anymore but are the users really interested in seeing the cryptocurrency transactions separately disclosed and mainly the amounts, I personally would be interested but are the majority of the stakeholder interested in this information, obviously like u said with exchanges they deal in cryptocurrency, it is their inventory therefore they have to show it. the argument with the rest could be the information being immaterial to the users and doesn't really impact the decision of the users. It could not be a relevant information, but it definitely ties back to the very young or youthful nature of bitcoin ecosystem of cryptocurrency so it really only be properly around for 4-5 years and it has been in the main stream for only about 3 years so the ecosystem of cryptocurrency is very young at this stage which means liquidity is not as much as the fiat currency, but as we go forward in time with the technological advancement of cryptocurrency, I think in the future it is going to be seen the ecosystem of cryptocurrency will mature which means greater adoption, and for those companies it would be the point of why haven't you disclosed this information as it becomes more material to users and investors, so that could be an argument.

Me: do you think the cost of mining a cryptocurrency i.e. the electricity bills or the capital investment of a high power computer to mine, can we treat it like a R & D expenditure?

A: I think that would be fairly difficult to prove from the side of typical research and development that results in a design under trademark laws or a patent or a prototype that is something that is an intellectual property that is an output of research and design process. Whereas, mining a cryptocurrency the output, **firstly there is no guaranteed output**, because of the competition and factories that have cropped up where all they do it buy specific hardware for mining purposes, though there is no guaranteed output but if you do successfully complete the proof of work the algorithm for bitcoin specifically and you have been awarded the bitcoin but that doesn't mean that the nature of the bitcoin is that of a prototype or design or patent, and so while the bitcoin may be intangible and be considered as an intangible asset those expenses incurred, I don't think they can be called as a research and development expenses but obviously under IAS 38 any expense for research purposes is expensed through the income statement but then it relates to development expense from the design phase onwards it is capitalised and here I think, bitcoin is an asset but not something that is arising from research and development...therefore it can be considered as intangible asset but not an intangible that is researched or developed. "

Me: do you think if cryptocurrencies are treated as an asset can we distinguish between a long term or short term asset?

A: Right now there is only two places where it fits- inventories and intangible assets, it doesn't fit in financial instruments, property plant and equipment, cash and cash equivalents, investment property etc I think it is possible as long as you refer back to **economic rationale and the business rationale** for actually holding these cryptocurrencies, as an asset is I am an exchange then it is pretty much my inventory, it is what I buy and sell but then we know inventory is generally classified as current asset and where-as if it is just an investment from the perspective of the entity who is holding cryptocurrency as an intangible investment then showing it as a current asset we must check if it has the same liquidity as inventory and as trading stock as cash and cash equivalent which are regarded as more liquid than non-current assets and it would be hard to argue that it has the same liquidity profile as cash or inventory and then you would want to say that it is more non-current in that perspective I don't think there is a rule, it clearly identifies back to the business rationale and the economic reality.

Me: my final question, do you think a stand-alone standard is required to simplify the accounting for cryptocurrency in the long run?

A: I definitely think there is an opportunity to clarify, exactly how the cryptocurrency should be treated. Right now there is only two places where it fits- inventories and intangible assets, it doesn't fit in financial instruments, property plant and equipment, cash and cash equivalents, investment property etc; because it has got a quasi-asset and quasi-currency nature, I really do think there needs to be further guidance around how it should be accounted, because I am sure in practice at least, the companies/entities who disclose this information they are not going to have the same accounting policies and same treatment. Which means comparability would be an issue and the whole point of accounting standards is to allow comparability between entities. Here the bitcoin is so subjective, that each entity can have very different policies. Yes it ties back down to the economic rationale but in a certain industry the economic rationale could be may be argued to be different and you have different disclosures, different treatment in the same industry which impairs their comparability, so I know the Australian accounting standards board has published some information on how they see currently to be treated, I don't know if it is there on their agenda but as the eco system matures, as cryptocurrencies become more material in the business space then there is really a need then for a unified accounting system or just a guidance on the accounting. Just like they have guidance on how to tax it, if not a standard but a guidance on how to account for it and eventually I do feel that a stand-alone standard is required just to address the economics of bitcoin and cryptocurrencies because it is not exactly a currency, it is not exactly an asset. It exists in some transitional realm between the two.

## Appendix #6 Interview Transcripts: Participant #2

(Introduction of the topic and the interviewer)

Me: What do you know about cryptocurrency in general?

A: Cryptocurrency, what I know is it supposed to be an antidote for fiat currency, where it is supposed to solve the problems the fiat currency has since the gold standard was lifted, I have a very rudimentary understanding of it, I have invested in it before and I don't do it now. It has good aspects and bad aspects but I know the basics of it and how it works in theory.

Me: how do you think cryptocurrency would impact accounting?

A: see, ideally it should not impact accounting a whole lot, because currently it looks like a currency but it is basically an investment and you should account it as investments are accounted. Just because volatility is a bit high doesn't mean you need new accounting standards or new way of accounting for cryptocurrency. When you enter into a transaction, it is mostly for investment 90-95% transactions are for investment, you know there is volatility and you are taking that risk as an individual or a company. So I don't think accounting should be that big an issue.

Me: do you think it can be treated as a normal currency in financial statements?

A: eventually may be, but not now because you can't have so much realised and unrealised gains on currency, it is fine of foreign currency but you can't have 50% gain quarter on quarter loss, because of the decline in the value of cryptocurrency so it has to be seen as an asset class in my opinion.

Me: Approximately how many cryptocurrencies are there in the market in your knowledge?

A: there are many, more than a 1000 but I know 17-18.

Me: According to the research, 1650 currencies are there and mcap up to 37billion dollars, and like you suggested that it should be accounted as an investment, I would like to ask you how would you exactly, I know it is an asset I know it can be treated as a commodity, or a simple share as an investment but because of the legality and the volatility and the price being driven by demand and supply and all these factors which are new to the cryptocurrency individually and they are not anywhere in the whole asset class how do you think the investment classification would suit cryptocurrencies?

A: So holistically, this is my initial point, just because the volatility is high doesn't mean it cannot be classified as an investment. Now it depends on the type of investments, it is not the only investment in the world that is volatile, if u buy a call or a future or an option of a highly volatile stock, its going to give u an insane quarter on quarter returns or losses, but there is a way to account for that. As per Ind AS as per ifrs everything is as a normal investment, you take the realised or unrealised gain depending on whether you have sold or not, so it seems to me that there shouldn't be too much of a difference, while accounting for cryptocurrencies. It should form a part of current investment as per the holding of the investment as per the judgement of the management.

Me: And what if an entity is accepting that as a payment? And not investing in it?

A: in my opinion it should be similar, if you see how financial statements are analysed by the market or by any-one who is looking at it, current investments are considered as cash and cash equivalents because a large company, they won't have all the cash in the form of cash, they will put it in liquid fund or mutual funds. And these current investments form a part of cash and cash equivalents. So from that perspective if you accept payment in cryptocurrency suppose a bitcoin/Litecoin as u can show it as an investment.

Me: what would be the obvious questions that a accounting standard to answer about accounting for cryptocurrency?

A: so the only think I find to be an issue in the cryptocurrencies is, that it needs to be disclosed properly, now if you see the quarterly statements the 10-K and 10-Q the Americans file, they don't really provide you with the breakup of investments. That is a danger in such volatile investments, so the disclosure norms should be proper and it should show how much cryptocurrencies are owned and what is the average prices of that currencies holdings, what is the current price and whether it has been impaired or not previously. I think disclosures are the main thing here and I don't think anything new needs to come out but it should be disclosed more than the normal investments are disclosed."

Me: That's actually a good point, I would like to mention that I have gone through a100 financial statements as a part of this research and those 100 entities accept bitcoin as a payment, out of which only 1 (trading company except the exchanges) reflects cryptocurrency in their 10-k.

A: If you see IFRS and US GAAP disclosure norms are vague, and as a disclosure you must disclose which cryptocurrency you are investing in and how much (gave an

example- if you have 100 million in current investment out of which 80million is in cryptocurrency and it could go bust tomorrow, you need to know that)

Me: With respect to accounting for investments, how would we avoid accounting for unrealised gains and losses on holding of a cryptocurrency as an investment

A: I think you can put that in OCI like you do for available for sale assets, this is the thing- either you have a separate standard where you say it is a different class of asset -which I don't agree with in that case you treat it like an intangible and impair it if necessary, what my point it have it as an available for sale investment, and when u sell it u can have it as a profit or loss.

Me: going in the technicality, transaction log has only wallet address and there is no other identifying information, if an individual is receiving cryptocurrency either as a payment for the company or he is receiving it has a personal asset for an individual, how do you think we can differentiate between them?

A: this is the job of the auditor, when you audit the financial statements of the company and they tell you that the company has xyz million dollars in mutual funds, who work in audit they check the ownership by the folio number, documents and the DMAT account. Everything is checked, reliance has to be placed on the auditor for that.

Me: so, we have already spoken about accounting, but if it is been accounted for as an intangible asset and volatility being its major factor, how do u think or should it be tested for impairment?

A: "if they are accounted as an intangible asset, they have to be tested for impairment every reporting period, that will also depend on the company – if it is a listed company quarterly and if it is an unlisted company six-monthly or yearly..... So my point here is I understand the argument of volatility driving the decision of accounting standards here but the accounting standards needs to be an **all season** accounting standard, tomorrow if the volatility actually reduces and it starts being accepted as a currency then you need to change the accounting standard at that point of time, that is not something I am amenable to, I think accounting standard should have a long term view and it should view it as a class of asset..."

Me: Reasons for non-acceptance?

A; There is only one reason-the government cannot control it and that's the power they have. Money (supply of money) is the only power they have and they don't want anyone else to control it, even though it is not backed by anything it is backed by the

government so losing that power would be detrimental to them, the excuse they give is the illegal activity and hacking which is not a good excuse that is basically a side effect. The thing is if you regulate something like that it will be more helpful rather than banning it all together, because it is going to be traded anyway - you cannot not have cryptocurrency by just banning it people will still use cryptocurrencies. It is a sheer political thing rather than anything which makes economic sense."

Me: how do you distinguish between long term or short term crypto-assets?

A; See now there are two things here, one is period of holding and secondly is why does the company have the cryptocurrency. If the company has the cryptocurrency as an asset where it believes it is a **hedge against its dollar holding in the long term** (if you see the libertarian school of thought is that something like this will eventually take over the currencies of the world and if the company thinks buying a certain amount of cryptocurrency is a certain amount of hedge) then it has to be a long term investment. While on the other hand you or dealing in cryptocurrency or you are receiving them as a payment and your revenue side and cost side both mention cryptocurrency which means you are using it as a currency then it should be in the short term (current asset) as part cash and cash equivalents under current investments and the intention of holding matters there."

Me: need of a new accounting standard?

A: I don't think so, I think disclosure requirement are needed. I don't know what would a standard address except increased disclosures and may be treat cryptocurrency like something that is very volatile in stock statement. The problem is that if you look at the users of the financial statements, they want stability in the financial statements, they don't want a lot of volatility in the financial statements, now what an accounting standard would aim to do is recognise losses faster and regulate it more so that the balance sheet value of the asset changes faster, that is the assumption I am going with because that makes sense to be because why would have a different cryptocurrency standard, but then what that does to an investor it puts him off as to quarterly profit is violently declining if he has even decent exposure to cryptocurrencies. The thing is we don't do this if he holds assets, if he holds calls or puts or even shares of a stock. Many stocks stung in the short term but we show them as unrealised in other comprehensive income. That is an additional data point for an investor but if you have a different accounting standard and different requirements for this, it will make the numbers unusable in my opinion and people will just write that part off the financials and look at the financials without that part. So I don't think it solves a problem, that is my reasoning for not having a different standard". Further he added, "see accounting should be seen for who is

using it not who is doing accounting, and if you look at it from the users point of view this makes sense”.

#### Appendix #7 Interview Transcripts: Participant #3

M: what do you know about cryptocurrency?

G: so, cryptocurrency. Most famous one I think is the bitcoin. I understand that there are many cryptocurrencies in circulation

But what I understand is that it's just an intangible asset which is traded just like shares. However as shares have some tangible business behind it or a tangible company behind it, cryptocurrencies are just valued on the basis of supply and demand factors and there's a limited supply to it. I think there is 21 million units of just bitcoin in circulation and its been treated as one of the universal currency replacement apparently. I am not sure how effective it will be. But yes I have some idea about it

M: that's great Gunjan. So as you would know India and China few of those countries who don't accept bitcoin or any other cryptocurrency. Why do you think that what the reason behind non acceptance?

G: Because I think as an instrument it is extremely risky, there are huge risk factors attached to it so valuation perspective if I have to speak, talking from a valuation perspective factors like reliability is very low as there is no one person or one institution or any government that is responsible. There is no Liquidity assurance, there is no transparency, there is no basis for valuation it is based on demand and supply. So all this factors combined it makes it extremely risky instrument, I would want to say almost speculative so as we all know developing and giving growth to a speculative business is not an ideal way to grow an economy and anyway India doesn't support speculation at all, from cricket betting to any kind of speculative activities. In fact, India has highest tax rate on speculative income. So I think on those

lines the government is being a little very I would say. So I think it is a good thing I would say they are not permitting transaction of cryptocurrency in India.

M: so how do u think cryptocurrency as a currency as a currency or an asset or a latest fintech revolution impact accounting as a whole?

G: so, talking from accounting perspective IFRS, US GAP in fact also in India they have separate accounting policies for financial instruments which includes derivatives different types of derivatives such as options futures and forwards and they also have accounting for intangible asset. So cryptocurrency falls in both these so It is also a financial instrument and also an intangible asset. Now the problem is that intangible asset you take or you take financial instrument they all have a basis for valuation there is something tangible that is attached to both these categories of assets I would say. But when it comes to cryptocurrency it does not have firm basis It is extremely open ended its extremely driven extremely volatile as an instrument coz it is completely driven because of the demand. The supply inelasticity drives the demand & drives the valuation I think it would definitely require different accounting principles & different set of accounting rules. Should companies start transacting in bitcoin so yes my answer would be yes like accounting separate rules in accounting are required for cryptocurrency.

M: so do you think cryptocurrency can be treated as a currency

G: I think it is too premature to comment on that at this stage because as I answered as I mentioned in the 1<sup>st</sup> question there is no government no institution or government body controlling it or u know so yes currencies are limited in circulation I can't say that the limited circulation makes an impact because all currencies are as they would be value so it could be but at this stage it is too premature and when it goes as far as universal currency goes as I understand that there are 1600 cryptocurrency in circulation so again that's out of question as it doesn't serve the purpose. Maybe at the times of launch the intention was to make the universal

currency globally but a single person cannot be driving it. Even in India is RBI that is driving the currency and So it is in every country in the world so no at this stage it is premature to call it currency or to see it as currency.

M: so now you must have indulged in valuation of intangibles and even properties for that matter. What factors do you take into consideration while valuation of intangible asset? What factors do you think accountants must take into consideration for valuation of cryptocurrency?

G: So what I think is when it comes to valuation of cryptocurrency it is not going to as simple as just mark to market. That you know you just choose the balance sheet date and whatever date is prevailing you just mark to market and you just show it as an asset, no because if you say you know if you treat it as a trading asset or a trading shares which is normally mark to market so to answer your 1<sup>st</sup> question so instead of tangible in tangible I would break it into long term and short term. Ok. So, the more the investment-oriented assets are valued based on cash flows, the future cash flows and there are lot of, in trading there are mark to market generally mark to market. For example, the reason they are marking to market it is trading the intention is to tomorrow also you could sell it off. So today the rate that is prevailing you can realize that and that's why you mark to market but the long term investments discounting of cash flows is done. So for example we take a private company and a listed company so you allocate a lot of risk factors when you are valuing. So, when you take private company you would discount the valuation with a higher cost of funds because there is a higher riskiness attached to it, by riskiness I mean that a private company share would be less liquid cause it is not listed. It will be the transparency in terms of information that is available that will be much lower so all those things combined I would put a higher cost of funds to my private sector investment rather than a public listed investment. So going by the same rules, cryptocurrency has a lot of riskiness attached to it. for example, If I want to hold it for 4 years I understand that there are lot of exchanges involved right now you know which are allowing

transaction of cryptocurrency but are they really established exchanges like for example in India like the National Stock Exchange or the Bombay Stock Exchange which is regulated and supervised by the government. No I don't think any cryptocurrency exchanges are regulated or supervised by government or any government. So what is the guarantee that four years down the line I would have the same sort of liquidity which I am getting today there will be a counterparty who would be willing to buy my cryptocurrency and I will be able to realize its value. There's no guarantee about that and there is no guarantee as we know that there are 1600 cryptocurrencies today bitcoin is famous, tomorrow there would a bigger or more interesting cryptocurrency which crops up and nobody is interested in bitcoin anymore nobody wants to buy it, then what? I mean you know it's completely devalued. So I think the way the long term employee benefits are accounted for in the books and that is gratuity primarily like an actuarial valuation is done for it which take into account the workforce, the age, the potential increments in the future and so on and so forth. So similarly more mature method for valuing, a more professional method of valuing cryptocurrency will have to be adopted. A simple mark to market is not possible because there too many risk factors attached to it and all that has to be taken into consideration and a valuation has to be assigned to it.

M: that's amazing that you brought up the gratuity valuation and the pension valuation which was a big valuation bubble few years before and now it's been more regulated by valuation rules and actuarial science coming into picture. Thank you for your contribution, just one last question do you think that in this fin techy world we need a standalone accounting standard for the whole world to be regularly or correctly account for cryptocurrency?

G: Definitely yes, if not a universal because there isn't a universal accounting standard you know which is you know no accounting standard which is universal you know USA has its own IFRS and India's has come up with Ind AS. But yes as the world is moving towards fintech, as it is embracing it I am sure US and Europe are way more

mature countries in terms of fintech acceptance and India is getting there. There has been a lot of strides in terms of progress in fintech. So definitely it's a new industry altogether, a new leg altogether so definitely the policy makers, the leading accounting institutions who regulate the you the accounting regulatory they have to come up with new set of accounting principles which rules or standards which govern the fintech instrument and can come up with appropriate ways and methods to value them and present them and I think from the perspective of stakeholders of companies for their safe guard it is extremely important for these accounting principles to come because for e gamy listed company is trading in bitcoins I personally feel that is not fair for the stake holders money to be used in a speculative activity. You'd rather pay out as dividends and give their money back because you don't really know. So risk return analysis is very important but from an accounting principles point of view I think at least for the listed companies where there are a lot stake holders involved at least for the listed companies there is an urgent need for an accounting principle because the financial statements are the source from which they derive their information in how their investments are doing and they have a right to know in what investments and how their money is being used, so yes for stakeholders management and for their safety and for being fair to them yes there should be separate accounting principles to correctly show bitcoin transaction and valuation in the books.

#### [Appendix #8 Interview Transcript: Participant #4](#)

M: what do you know about cryptocurrency

R: crypto currency in the most basic language if I have to tell you I will probably call it digital currency which uses separate set of algorithm to go through the transaction tell you in the most crude form can be called as virtual currency or a digital currency

Me: Approximately according to you how many cryptocurrency would be available right now

R: 1200-1300

Me: as of now there are 1650 crypto currency is in circulation

R: ....ok

M: How do you think cryptocurrencies will impact accounting

R: so the whole idea is way more complex and the accounting complexities would also increase drastically because of the complexities. I'm not sure but I think international standard board has come up with accounting guidance but I'm not too sure about it, considering the nature of the crypto currency it's not going to be very easy to classify among the existing asset class unless international accounting standard board comes up with some guidance which I believe they have in recent past

M: Australian and Canadian boards have come up with a guidance,

M: do you think we can treat it like any other currency in the financial statements?

R: No thing with any other currency is it has a physical form which crypto currency does not have so it's one thing which I think cannot be and should not be considered as also that it has its own complexities in terms of determining the value because if you see the whole legal system today there is no legal backing it is more of a demand supply that drives the price. I don't think treating you, I wouldn't say that treating it as a form of currency would be the right approach, but more rational approach would be to treat it as an intangible asset...treating it as a currency in my opinion shouldn't be done because of the legal backing – it is not there. A currency needs to have a legal backing for it to be called an official currency, it is certainly an asset and treating it more as an intangible asset would make more sense. "

M: Do you think it can be treated like an inventory for the firms who are involved in exchange of cryptocurrencies?

R: So you mean probably the brokers or traders who have more to do with the short-term investment that in the equity markets in the trading markets

M: No I mean the companies that are set up just for the purpose of exchange of crypto currencies...

R: I don't think they can be treated as an inventory, in the whole process because they are just an intermediary in the whole transaction in the whole peer to peer network they are just an intermediary through which the whole transactions flow-

through so for them to be treating it like an inventory wouldn't be right and the whole definition of inventory won't suit it. In terms of the technicalities it doesn't seem more logical for them to be treating it like an inventory

M: What are the questions you would want the standard to answer? While setting one for cryptocurrencies?

R: First of all the most important thing is, even before the accounting standard has been set there needs to be a functioning mechanism which would validate quite a lot of things, the accounting part would come on the later part but the more important would be the validity, the backing up. Today the numbers that are being shown are not probably the numbers that they are valued at, it is more of a demand supply function. But, coming to the accounting standards if that needs to be set up, a whole a lot of things need to be clarified. First of all the classification of the cryptocurrencies, apart from that the valuation..., also the mining process is a complex procedure and it has a cost attached to it is quite heavy and how to treat these costs incurred for mining... and also how to recognise revenue.... apart from that the valuation of cryptocurrencies which value you would consider for the valuation....all these need clarification..."

M; Actually you answer few of my later questions as well thank you for your input! do you think the cost incurred in the mining of crypto currency can be treated it as a research and development expenditure

R: If you see the nature of the cost itself and the amount being spent by them- miners is quite hefty. The whole concept of block chain is not just use for mining of crypto currency in the more broader sense it has been expanded to crypto assets that this is something which needs to be looked into and probably on the basis on which how much to charge to profit and loss and at what stage that will be need to be looked into.

M : do you think there is a possibility to avoid accounting for unrealised gains or losses on holding of a cryptocurrency

R: That will depend on the classification of currency let me give an example of a non-current investment compared to mark to market. So it's going to be more on those lines where are you will have currencies for trading purposes and for investment purpose, I feel the recognition of losses should be on the basis of which it is used, for example something which is done on the trading basis by brokers who are intended to trade on it a periodical mark to market and recording the profit or loss of that period would make more sense And when in the case of crypto currency being

held as an investment Asset then recognising the loss if there is an impairment or a significant devaluation Then probably recording that would make more sense than keeping it unchanged at its cost or the market value.

M: The transaction log records only a wallet address it does not record any identifying information of an individual how would we know that the crypto currency received is for a company or in for an individual or how can we confirm that it is the payment receipt or an asset receipt and how can we confirm that The entity has received the title of the asset

R: That's a fair point and something that actually needs to be looked into because the ownership of the crypto currency is more like you log into the system and you know that how much balance you have, it's an e-wallet, I think what needs to be done is a universal platform to be set up through which everyone trading or everyone using crypto currency need to flow through thereby it would be required for all the individuals to have a unique identification number that along with the tagging of the wallet should form a reasonable identification but doing that is not going to be easy because we have multi countries operating it and using crypto currencies and they have different identification for themselves for example US you will use your Social security number somewhere else you use your passport number and one country could use anything, so that will be a challenge to have one world unified platform..... But I do feel that our unified system needs to be created through which these transactions flow and people are verified at the both ends and the transaction goes through so that you can have a legal backing to the transaction as in just identification of individuals

As we know volatility is a big feature and I see you in the conversation earlier identified cryptocurrency as an intangible asset do you think we should tested it for impairment and when?

R: the volatility there is mainly because of the demand and supply, and you don't have intermediaries that is curbing the volatility as such.... If it is being treated as an intangible asset (which I feel is logical approach) test of impairment would depend on the purpose with which you are holding cryptocurrencies. For example if you are trading cryptocurrency then in that case doing a mark to market loses and realising mark to market gains would in itself test for impairment (as you will be recognising it in the profit and loss in the period for which you incurred the gain or loss) and another individual who is holding it as an investment or for long term in nature then probably testing for impairment on periodical basis say every three months or six monthly or yearly would be a logical approach. And testing for impairment for such

assets is all the more important because the value of these assets change significantly...

M: What are the reasons for non-acceptance of currency

R: If you take a country like India with due respect to the nation they are not as updated with the technology as compared to US or Europe considering the nation as a whole and considering the demographics it's not going to be easy for the nation to accept. Because they still a developing nation and for them the whole concept of digitalisation with money is still not completely being accepted for example a large part of the country is still not known to the e-wallet, credit card and acceptance of crypto currency is going to take that much more longer and there a lot of risks that are there in terms of data security which is one of the most important aspects to be tackled while implementing, the government needs to think on those lines (talks about Adhaar data leaks ) in India security as such is a big threat in terms of data privacy and hence the same to be more reluctant to accept these new advances. However in due course of time say 5-10 years down the line the government is working to get stuff online in terms of data security and data privacy therefore there will be slow and acceptance with time but at the moment I don't think that will happen considering the demographics of the country and considering whether standing in terms of technology right now

M: Do you think there is a need of standalone standards to simplify the counting of crypto currency is

R: Certainly I mean it's not only a standard that needs to be derived that nothing is crypto currency is just one part of crypto I set the standard needs to be made to be dynamic enough to incorporate a lot of things that are going to come in the picture in the future years....(talks about blockchain)

#### [Appendix #9 Interview Transcript: Participant #5](#)

Introduction about the thesis and the interviewee and conversation about cryptocurrencies in general. (the researcher is only including relevant material in the paper)

Me: How do you think cryptocurrencies would impact accounting?

S: So there are many many many challenges that we face when it comes to crypto currency and the biggest challenge I personally think is accounting office Inter-operability like you cannot sell crypto currency and get Indian rupees like you can

sell INR and get pounds and euros

Accounting for crypto currency is it going to be a great challenge because you will have to use defined rates so there is a very good analogy that bitcoin for that matter any crypto currency works on the block chain and this block chains have well-defined crypto rules and when it comes to rules for accounting for normal currency will have 300 different rates so maybe it'll be easier to account for crypto currency stand to account for Fiat currency so let's see how it goes

Me: Do you think it can also be read as an inventory

S: Yeah why not it's actually depends on how you look at it it's actually new thought for me as well I have dealt with clients before who are setting up companies only to deal with crypto currency yeah maybe so when you going to that field you can treat it as a stock in trade instead of an investment..

Me: Can it be treated as a currency?

S: "A personal opinion yes we can, but that's not my legal opinion because legally we cannot, Indian constitution allows only one currency i.e. INR to be run of as THE currency, apart from that if you are trading in any foreign currency, those foreign currency should be recognised by their respective countries as their official currency, and cryptocurrency is no-where over there. So basically some people are treating it as a commodity, I know people who are treating cryptocurrency as commodities and intangible assets...there will come a day when cryptocurrency will replace the currencies, but not as of now today we need to treat it as an intangible asset of commodity.

Me: What about impairment when it comes to the volatility as a feature and being treated as an intangible asset?

S: I personally feel that impairment is a big no-no in the current assets as well, so impairment is when the asset loses its value completely – according to accounting standards, when the asset is no longer valuable you impair it and bring its value down and it has to be really material. In cryptocurrency we can use the same concept, but cryptocurrency is very volatile, it has not happened yet but bitcoins (cryptocurrencies) can fluctuate crazily, you never know and you cannot guess the next movement of cryptocurrency and impairment being a permanent decrease in value of asset. It is a permanent decrease, so again you can take an analogy of the share market; all the good shares they never go down permanently, similarly

cryptocurrency will face the same issue. As on today, from the place we stand now bitcoin/cryptocurrency has a great future, its costlier than any real currency in the world so as of today I cannot see it going down permanently...

Me : Can the expenses be treated as a Research and development expenditure?

S: Definitely not research, but it can surely be treated as development because research is for a product which you don't have it in your hand right now but you are trying to find and development is when you have your product and you are just trying to make it feasible. So, basically when you mine a bitcoin you are technically trying to create a block first, that's the concept.... I would say it is a development cost not a research cost

Me : A new set of accounting standards is required for simplification of accounting for cryptocurrencies?

S: Yes, I think it will be required as I earlier mentioned.

#### [Appendix #10 Interview Transcript: Participant #6](#)

M: what do you know about cryptocurrency?

K: It is basically a digital currency, like the name suggest there is no physical appearance or existence it is based on the blockchain technology, the most famous one is bitcoin so there is no physical existence of it but only digital existence of it like you can have it on your wallet.

M: so according to you cryptocurrency is a digital currency and has no physical existence So you know that we have over 1600 cryptocurrency and it has market capitalization of over 37billion dollars?

K: So, I'm mostly aware the about the famous ones so approximately 5 - 6 of the well-known currencies. I wasn't aware about the 1600 digital circuit currencies yet. So yes.

N: I'm glad you know at least 5 because I also didn't to know about the 1600 cryptocurrencies during the research and during the research I figured that few

countries are not accepting cryptocurrencies or Bitcoin as a legal payment tender. So why do you think what are the reasons behind non acceptance of Bitcoin or cryptocurrency in general.

K: so this is a very recent issue which also happened in India. The non-acceptance of Bitcoin and the Reserve bank of India stated that because of its speculative nature it is very risky to adopt cryptocurrency as for legal tender and there won't have any mass acceptance because of the same reason and the major reason is that it does not have any legal backing for example the regular currencies like the INR or the pound or the dollar. They have a backing, like they are based on assets and then you know the value is derived but for Bitcoin it's not the same it's digital currency and it's mostly based on the concept of demand and supply.

M: that's amazing as my thesis is regarding accounting of cryptocurrency is like to ask you how do you think cryptocurrency would change accounting.

K: so basically the cryptocurrency was made or brought for having just one currency for the entire world to make transaction easier and cheaper than we have today but that's far from achievable just like you said 1600 cryptocurrencies which to a accept which to not it is like documents right now but the concept that is based on technology of block chain each block ledgers its transparent so in future it can be highly acceptable for accounting purposes as well.

N: so you think that because of the transparent public technology of cryptocurrency it'll be more acceptable in the future, of the what you mean?

K: yes, that's exactly what I mean.

N: do you think we can treat it like any other currency?

K: right now since it's not completely out of it's you know in its shape, it's not totally acceptable everywhere it's just used by few percent if the total currencies so... maybe

after a while after a decade or so when the technology is sophisticated the average would be higher than today. And I think that is more of an asset like it can be treated as an equity asset which is highly volatile rather than a currency right now. So I just compared it with equity investment as it is highly volatile and it's mainly priced based on. The demand and supply factors so it's more of an asset than a currency and mainly it's used for investment purposes currently

N: ok.. how do you think keep can avoid accounting for unrealised gains or losses on holding of a cryptocurrency?

K: good question, to analyse these things the Australian and Canadian accounting boards have come up with guidance of shooting of cryptocurrencies, crypto assets and I think regulation of accounting bodies in regards to cryptocurrency will find a solution for this.

N: so as we are aware of the block chain technology and the transaction log only records the wallet address and no other identifying information how would we know cryptocurrency received for the company or the individual. So how do we differentiate between asset received or a payment received

K: as I understand the wallet has a trail and because of the public ledger concept of block chain it can be easily identified by identifying its trail. For example if it has been mined it can be treated as an asset and it has been received as an payment accordingly.

N: so, you mean the block chain technology of public ledger would easily help us identify why it is received and where it received

K: exactly

N: as you mentioned earlier volatility is and essential feature of cryptocurrency when and do we test a cryptocurrency or an asset for impairment

K: depending if it had been accounted for as an asset or if it been accounted for an intangible asset and looking at the price change every day the volatility I think it will be test for impairment every day and that's not feasible though and that's why guidance is required on its accounting.

N: ok. so according to the concept of its volatility and its characteristics of being so volatile, I understand that it should be tested for impairment every day I agree but because of its non-feasibility you are suggesting that a new accounting standard should come into picture?

K: yes, I think so

N: how you think we can distinguish between a long term or a short term crypto asset?

K: if we look at the accounting point of view there's current and non-current assets which are dependent on the period of its holding, so we could try this factor for determining it and we could maybe account it for as a financial instrument as in the IFRS 9

N: that's a good point again. So, what are the obvious question that you would want to answered whole setting an accounting standard as you said that there is need for setting an accounting standard to establish ground rules for accounting for cryptocurrency? When do we possibly recognize?

K: so, there are 2 things you can either recognize as payment when you receive it or even you convert it into recognized currency. So just like we have snoring standards for foreign currencies we can do that for cryptocurrency as well so that the day you receive it you can convert it for that rate line for example You receive it today and price of Bitcoin is \$900 you can either receipt at \$900 today or if you convert into convert it into regular currency you can record it that value.

N: and as you said that we can use foreign exchange accounting standard for this conversion

K: absolutely, yea. So, we have an accounting standard when we recognize a different currency and convey it with the home currency rate.

N: that's a great input actually because I never considered accounting cryptocurrency as a foreign exchange currency but it's a very good point. Its characteristics make it like the foreign currency

N: How do you think we can measure it? Like the answer while setting an accounting standard how do you think we can measure it, value a cryptocurrency?

K: as we require actuaries for valuation of gratuity payments I think maybe we require professional to help value cryptocurrencies also taking into consideration the risk factors

N: okay do you think if it is treated as an intangible asset do you think the research and development cost on mining of a currency for example the capital expenditure of buying a big per machine or the electric bills because it requires a lot of time, do you think we can charge it as a research and expenditure?

K: I don't think that could be done right now because it's still in the research phase and we don't know what could be the outcome be. But if it decided to be accounted for as an intangible asset it is good point we can use to consider it in accounting

N: so, I would just like to ask for the record but you already made it clear that you think a standalone standard is required to simply the accounting of the cryptocurrency, but do you have any other thoughts about having a standalone standard for accounting of cryptocurrency?

K: as I have mentioned before that guidance in regulating is required for better understanding and reflection of cryptocurrency in final statements and you know it's still in that building phase where we don't have any clear picture of what it can be future, it can be more than a cryptocurrency so right we can just go about it like as the development is going on and similarly on the side ways make financial standards and rules regarding the cryptocurrency.

#### [Appendix #11 Interview Transcripts: Participant #7](#)

Me: what do you know about cryptocurrencies?

S: So crypto currency is basically a virtual currency and basically nonphysical which is based on block chain technology and aims to function as a parallel currency and going forward as the first choice of global currency

Me: do you know how blockchain works?

S: I don't know how it works in detail I don't know the technical part of it  
(Rules out technical questions about blockchain)

Me: how do u think cryptocurrencies would impact or change accounting

S: well so as it is a digital currency it will live its digital footprints and leading up to it becoming more transparent in terms of transactions and maintaining accounts I think it will be a cleaner currency going forward for smaller and bigger companies

Me: So, you think accounting will be made easier with crypto currency coming in the picture

S: I guess so

Me: Why easier,

S: Because it will be more open and it'll be easier to track

Me: Because you worked in mergers and acquisition do you know internationally Do

you know internationally any transactions that have used crypto currency to settle the mergers and acquisitions

S: Not that I know of,

Me: Do you think we can trade crypto currency is like any other currency

S: I don't think so because of the unpredictable nature value of the currency  
There is no regulation for the valuation of crypto currency and I think it is a very volatile currency and so it cannot be treated like any other currency as of now.

Me : what kind of questions

S: when we think about setting regulation for accounting I think one of the major questions would be how to account for it the valuation of the crypto currency holding I think that would be the main things that would be answered because right now it is pretty unpredictable

Me: How do you think we can distinguish between a long-term and short-term asset or a non-current or current asset

S: so now if you look at accounting current and non-current assets are depend on the period of their holding we could maybe accounted for as an financial instrument as ifrs 9

Me: As you mentioned it very volatile as it when do we test it for impairment if treated as an intangible

S: Depending upon that if currencies are accounted for as an intangible asset and looking at the price change every day I think it should be tested for impairment every day and that's not feasible and that's why I think a guidance is required on its accounting

Me: what are the reasons behind non-acceptance of crypto currency

S: because any national currency is backed by the government and the valuation is set by the government and is regulated and in case of bitcoin we cannot be sure that the crypto currency is attacked by ransomware, And the government is not very sure

about the pair of parallel currency as we have not very sure about the source of the currency

Me: can the costs be considered as research and development?

S: I don't think it can be considered as research and development expenses right now but if it is decided to be treated like an intangible asset in the future it can it can be a good point which can be considered to set accounting standards

Me: is a standalone standard required?

S: yes like we been talking about definitely there needs to be regulation for crypto currency accounting a better guidance and a better understanding of crypto currency is needed in financial statements

[Appendix #12 Consent forms layout](#)

Consent form was sent out in google form format with a button to accept or reject the interview with the consent of the interviewees.

## **INFORMATION SHEET FOR PARTICIPANTS**

### **PROJECT TITLE**

*An introductory outlook: What are the current issues with regards to accounting for cryptocurrency?*

You are being asked to take part in a research study on accounting for cryptocurrency as a part of my final project towards fulfilment of my MSc in International Accounting & Finance degree with Dublin Business School, this topic has been duly accepted by the DBS Research Ethics Committee.

### **WHAT WILL HAPPEN**

In this study, you will be asked to answer a few questions with regards to your views on correct treatment of cryptocurrency in financial statements or their valuation in respect to accounting for cryptocurrency.

### **TIME COMMITMENT**

The study typically takes 20 minutes, a maximum of 30 minutes.

### **PARTICIPANTS' RIGHTS**

You may decide to stop being a part of the research study at any time without explanation required from you. You have the right to ask that any data you have supplied to that point be withdrawn / destroyed.

You have the right to omit or refuse to answer or respond to any question that is asked of you.

You have the right to have your questions about the procedures answered (unless answering these questions would interfere with the study's outcome. A full de-briefing will be given after the study). If you have any questions as a result of reading this information sheet, you should ask the researcher before the study begins.

### **CONFIDENTIALITY/ANONYMITY**

The data I collect does not contain any personal information about you except your qualification and experience in years so as to justify the result of the study and collection of primary data.

### **FOR FURTHER INFORMATION**

I Nikhita Ramrakhiani or my supervisor Richard O'Callaghan will be glad to answer your questions about this study at any time. You may contact my supervisor at [richard.ocallaghan@dbs.ie](mailto:richard.ocallaghan@dbs.ie) and myself at [ramrakhianinikhita@gmail.com](mailto:ramrakhianinikhita@gmail.com) or [10362924@mydbs.ie](mailto:10362924@mydbs.ie)

