CHAPTER 2

LITERATURE REVIEW

1. Bit coin as Money?

Name of Author: Stephanie Lo (Ph.D. student at the economics department of Harvard University) and J. Christina Wang (senior economist and policy advisor in the research department of the Federal Reserve Bank of Boston.)

The spectacular rise late last year in the price of bit coin, the dominant virtual currency, has attracted much public attention as well as scholarly interest. This policy brief discusses how some features of bit coin, as designed and executed to date, have hampered its ability to perform the functions required of a fiat money—as a medium of exchange, unit of account, and store of value. Furthermore, we document how various forms of intermediaries have emerged and evolved within the Bit coin network, particularly noting the convergence toward concentrated processing, both on and off the block chain. We argue that much of this process would have been predicted by established theories of financial intermediation, and we consider the theories' implication for the future evolution of intermediaries serving users of bit coin or alternative virtual currencies. We then compare Bit coin with other innovations to facilitate payment services, from competing alternative digital currencies to electronic payment protocols. We conclude with a broad consideration of the major factors that will likely shape the future development of Bit coin versus other alternative payment systems. We predict that Bit coin's lasting legacy will be the innovations it has spurred to payment technology, although the payment system will remain dominated by large processors because of economies of scale. In short, the growing attention among the general public and researchers on the topic of digital currency and alternative payment technologies, along with the potentially revolutionary impact of such technologies on commerce, justify spending some resources on developing a framework for understanding the related issues. For example, what are the fundamental needs satisfied by digital currencies such as bit coin? How, if at all, should Bit coin intermediaries be regulated? What are the main drivers of bit coin price movements? Many interesting questions remain to be explored.

Comments:

Like any valued financial claim, bit coin also serves as a store of value and can become a vehicle for speculative investment.

Compared with commodity money, which has an intrinsic value, such as gold, or official fiat money backed by a sovereign entity, the current market value of bit coin to any given user hinges entirely on her expectation of others' willingness to accept it later at a sufficiently greater value.

Zero or low fees

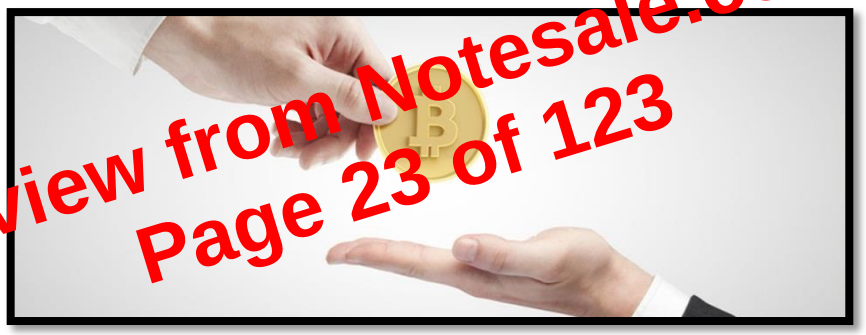
Bitcoin allows you to send and receive payments at very low cost. Except for special cases like very small payments, there is no enforced fee. It is however recommended to pay a higher voluntary fee for faster confirmation of your transaction and to remunerate the people who operate the Bitcoin network.

Protect your identity

With Bitcoin, there is no credit card number that some malicious actor can collect in order to impersonate you. In fact, it is even possible to send a payment without revealing your identity, almost just like with physical money. You should however take note that some effort can be required to protect your privacy.

Bitcoin for Businesses

Bitcoin is a very secure and inexpensive way to handle payments.



The lowest fees out there

Bit coin's high cryptographic security allows it to process transactions in a very efficient and inexpensive way. You can make and receive payments using the Bitcoin network with almost no fees. In most cases, fees are not strictly required but they are recommended for faster confirmation of your transaction.

Protection against fraud

Any business that accepts credit cards or PayPal knows the problem of payments that are later

interested in getting into mining, pick a promising group from this short list of big bitcoin mining pools and contact the pool operator.

Most Major Retailers Don't Accept Bitcoins (Yet)

If you do decide to take the plunge and buy some bitcoins on an exchange like Mt. Gox, you'll need a place to spend them. Bitcoin is still young, but the list of merchants that accept bitcoins is growing rapidly as the currency gains traction through media exposure. The lion's share of bitcoin business still happens online, as befits a virtual currency--you can spend bitcoins at Reddit, WordPress, Mega, and Wikileaks, for example. But brick-and-mortar businesses--mostly bars and corner stores with connections to Bitcoin advocates--are gradually adopting the currency as well.

You'll find a much, much bigger list of websites where you can spend your hard-earned bitcoins on the Bitcoin wiki, and a growing list of businesses that accept bitcoins in the real world.

Bitcoins Aren't Protected Or Insured By Anyone

Bitcoin transactions are irreversible. Once a bitcoin transaction is broadcast to the network it can't be revoked. So a hacker who accesses the PC that stores your bitcoin wallet can send your entire bitcoin fortune to another wallet--and there's nothing you can do about it. Caveat emptor.

Of course, if the PC that stores your bitcoin wallet is owned by a third party that insures it against theft--say, a respectable bitcoin wallet hosting service--you might be able to recover the value of some or all of your stolen currency. For example, the recently hacked bitcoin wallet hosting service Instawallet shut itself down in the wake of a devastating hack attack and provided refunds to users who had lost 50 BTC or less.

Nobody Knows Who Really Created Bitcoin

Bitcoin's creator was a coder and cryptography enthusiast who communicated on the cryptography mailing list under the name Satoshi Nakamoto. Nakamoto designed the network and launched Bitcoin in June of 2009, mining the first 50 bitcoins to form what became known as the genesis block.

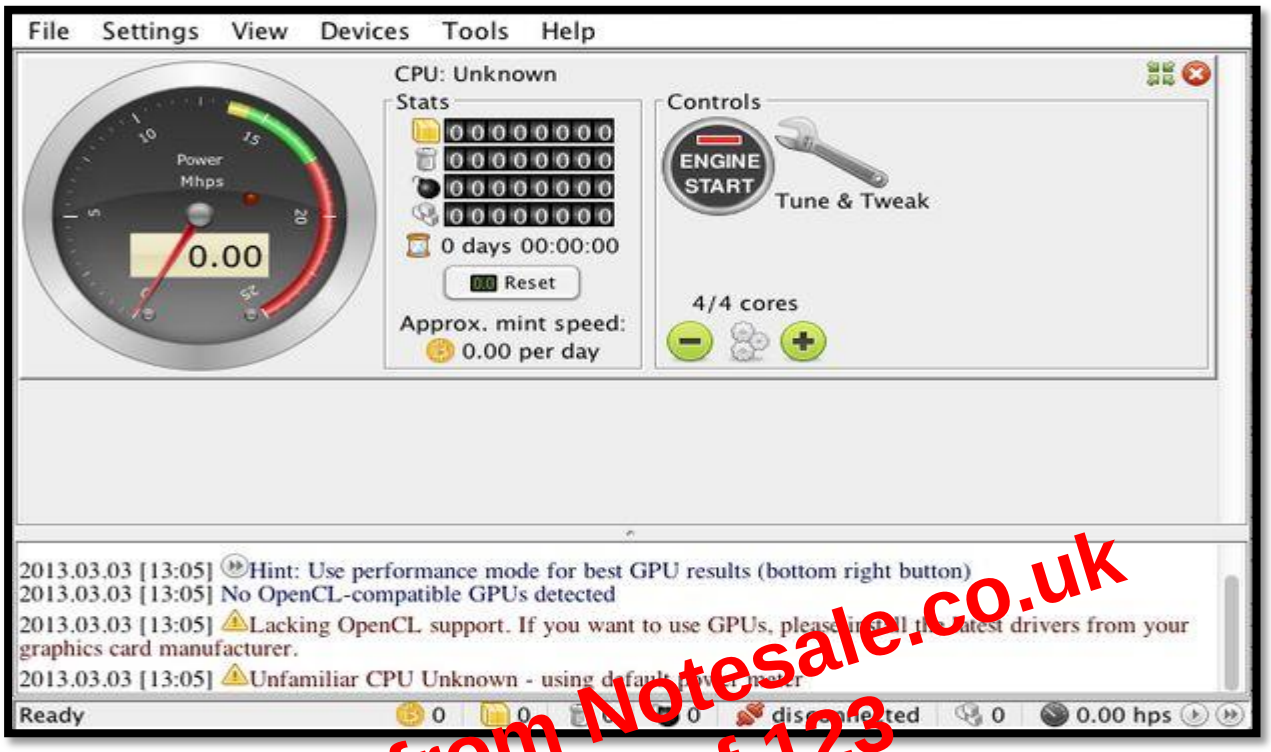
Nakamoto disappeared shortly thereafter. Many reporters have tried--and failed--to unearth Nakamoto's true identity, but so far the progenitor of the most successful virtual currency ever made remains a mystery.

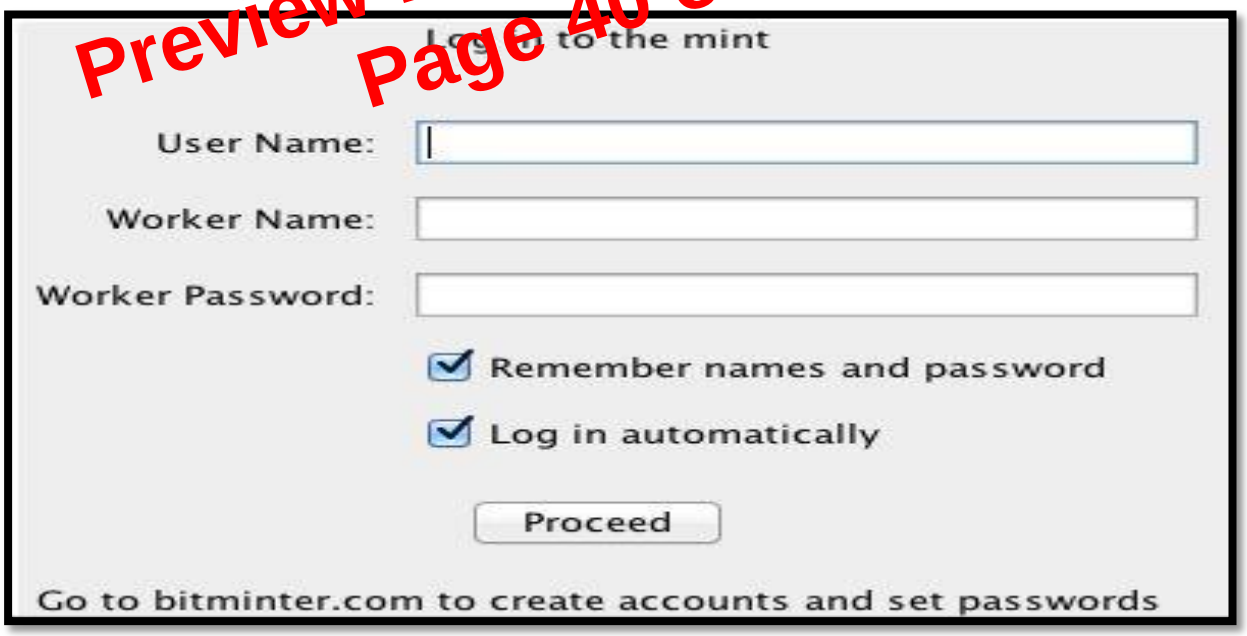
4) Depending on your opperating system, a different version of the file will download.

5) Follow the onscreen instructions to continue installing the software.

6) Click finish and be done installing. Continue on to the next step to set up a miner.

STEP 8: SET UP A MINER





Go back to the BitMinter homepage. Click on the "Engine Start" button. This will download a Java Web Starter, which will download the actual program and install it.

Find out what kind of graphics card you have. It helps to have as much information as possible about it. Then, find it these lists:https://litecoin.info/Mining_hardware_comparison and https://en.bitcoin.it/wiki/Mining_hardware_comparison#AMD_.28ATI.29

You want to find the hash rate (kH/s for litecoin, MH/s for bitcoin) and power usages (watts). Unfortunately, these lists are mostly incomplete. Do your best. The bitcoin list states hash rate in MH/s but don't worry about that yet. Also, the exact numbers are not required because they are only used here to estimate your profitability.

Step 2. Determine your cost of electricity

Look at your power bill. It will tell you how much your electricity costs. If you electricity is free, then your cost is 0.

Step 3. Enter you hash rate, power usage, and power cost in the profitability calculator

Go to dustcoin.com. Enter your hash rate. Enter the same number for both SHA-256 and scrypt. Make sure that MH/s is selected for SHA-256 and kH/s is selected for scrypt (scrypt is about 1000 times slower than SHA-256). Add 100 watts to your graphics card's power usage and enter that value under Power. Enter your power cost. Select Day for the Period.

Step 4. Determine if you can make a profit from mining

The table will show you approximately how much you will make mining each kind of coin for an entire day. It is likely that mining SHA-256 coins (such as Bitcoin) will show a loss, but mining scrypt coins should show a profit between $0.50 and $4.00, depending on the values you entered. Going forward, I am going to assume that you will be mining scrypt coins.

Step 5. Install mining software

Download cgminer version 3.7.2 from here: http://ck.kolivas.org/apps/cgminer/3.7/. Later versions don't support graphics cards, so get the 3.7.2 version. Unzip the file to a convenient location, such as C:\mining.

Step 6. Set up an account at multipool.us

Go to multipool.us and create an account by clicking on Register.

Step 7. Create a shortcut for convenience

Open Windows Explorer and navigate the folder where cgminer is installed. Right-click on

cgminer.exe and select Create Shortcut. Right-click on the shortcut, click on Properties, and add the following to the Target text:

Quote

–scrypt -o stratum+tcp://pool1.us.multipool.us:7777 -u <user>.1 -p x
where <user> is your multipool user name. The password can be anything.

My Target looks like this:

Quote
D:\mining\cgminer-3.7.2-windows\cgminer.exe –scrypt -o stratum+tcp://pool1.us.multipool.us:7777 -u odolvlobo.1 -p x

You can move this shortcut to your desktop.

Step 8. Start mining

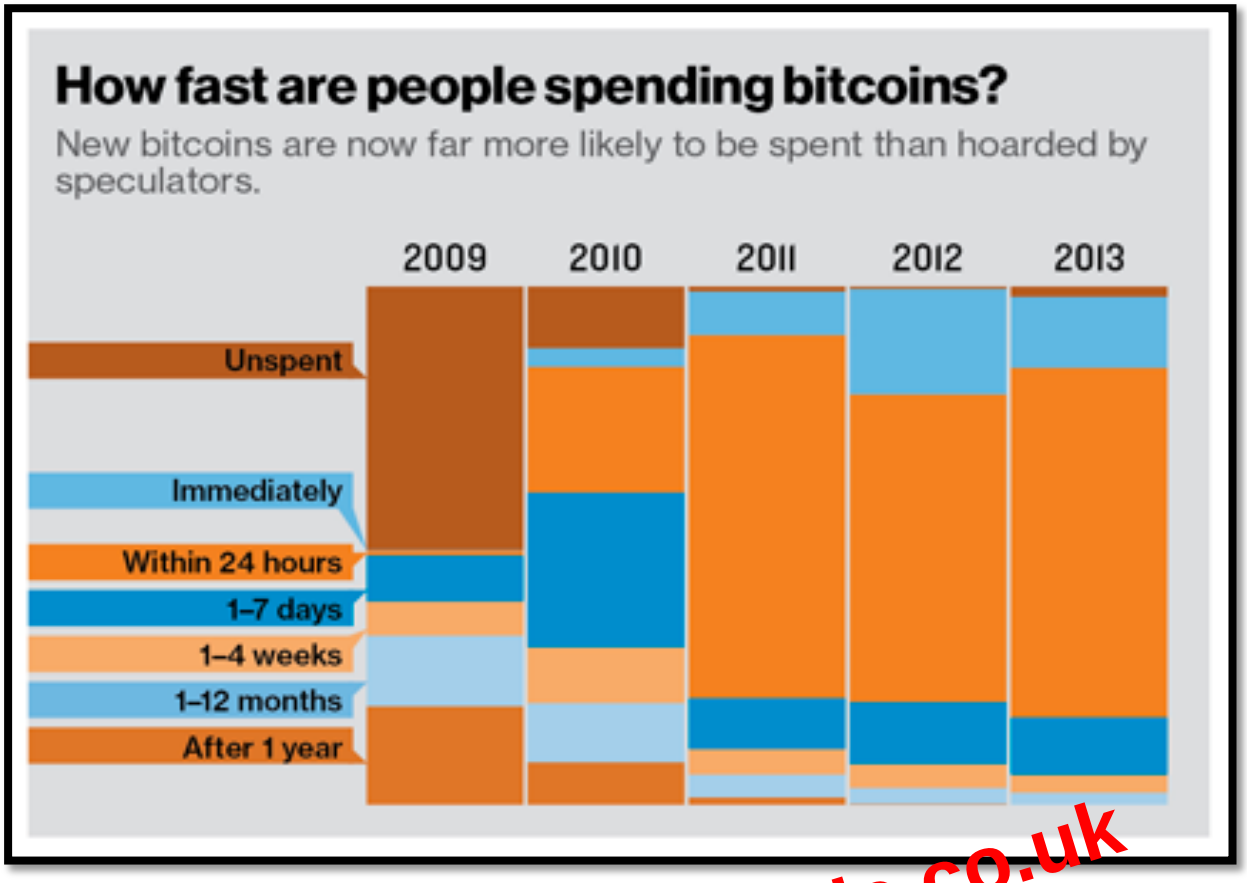
Double-click on the shortcut. A window like this will appear:

```
bitcointalk.org image proxy:
Invalid image
```

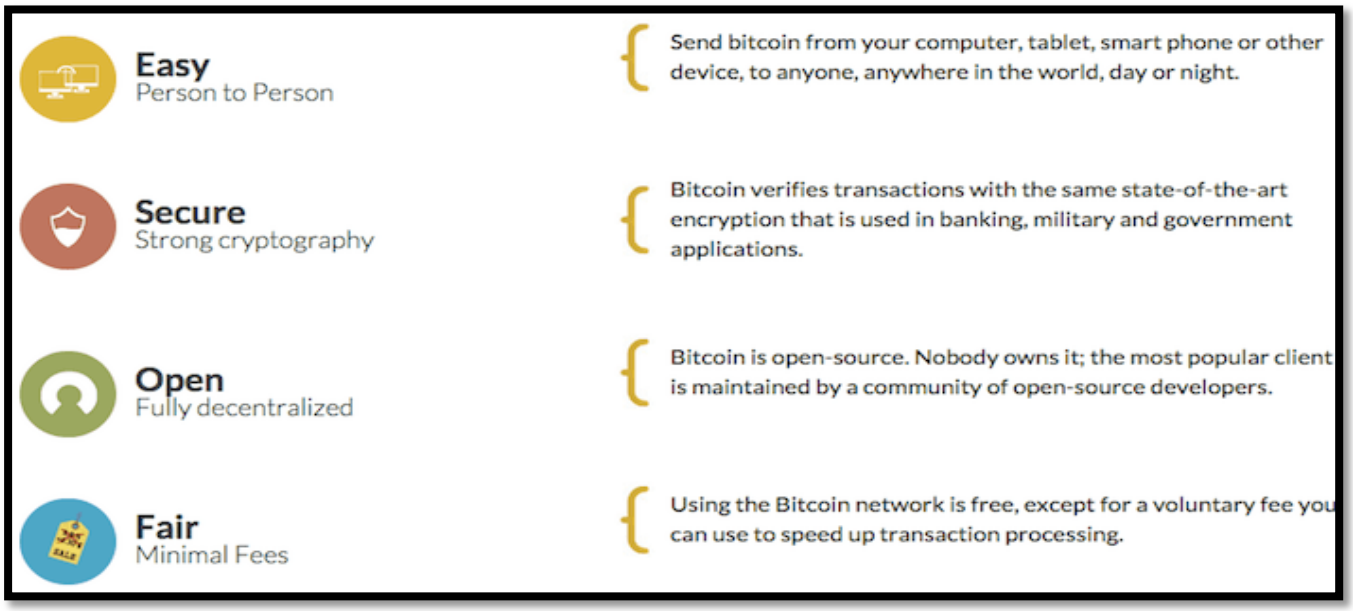
Lines saying "Accepted" should start appearing. If they all say "Rejected" then something is wrong. Note the hash rate at the top. After a few seconds, it should be somewhere around your expected hash rate. If not, there are several things that might be wrong. I'm not going to troubleshoot the possible problems here, but the most likely fix is to add a -I parameter with a value between 8 and 20. You will have to experiment to get a good balance between hash rate and usability. I use "-I 13″ or "-I 19″.
You can check your results and profits at the multipool.us website.
Type the Q key to stop mining.

Next steps.

1. Optimize your mining setup. cgminer has many configuration options. Some might improve your hash rate. Do some research.
2. Set up an account on Cryptsy or Bter. You will be mining many different types of coins. If you don't want to keep them all, you can transfer your coins to Cryptsy or Bter and sell the ones you don't want and buy the ones you do.
3. Try other mining software and other pools.
4. Learn about how mining works.
5. Learn how the difficulty and the exchange rate can affect your profitability.
6. Learn how to predict future mining revenue so that you can invest profitabl



The above graph shows the spending of bit coins in the market by the people using it.majority of the spending is been seen happening within 24 hours from the year 2010 to 2013.after that are those people who spend bit coins as soon as they acquire it immediately. In 2009 the people who did not use to spend were less as compared to all the other years but slowly and gradually it was seen diminishing in the coming consecutive years.



The following diagram explains and summarises why bitcoins are used as a form of payment network.

CHAPTER 4

COMPARSION BETWEEN BIT COIN & E – MONEY

BITCOIN	E - MONEY
1.ACCESSIBILITY	
Largely connected to internet connections	Access to electronic devices such as mobile phones , and an agent network
2.VALUE	
Determined by supply and demand and trust in the system	Equal to the amount of fiat currency exchanged into electronic form
3.CUSTOMER ID	
Anonymous	Financial action task forced standards apply for customer identification (though such standards permit simplified measures for lower risk financial products)
4.PRODUCTION	
Mathematically generated ("mined") by peer network	Digitally issued against receipt of equal value of fiat currency of central authority
5.ISSUER	
Community of developers , called "miners"	Legally established e – money issuer
6.REGULATOR OR OVERSIGHT	
None , though regulators are currently exploring	Regulated by central authority , typically central bank

DIFFERENCE BETWEEN PAYPAL & BIT COIN

COMPARISON OF ONLINE PAYMENT METHODS

PayPal	Bit coin
The defender, PayPal, a US-based company established in 1998 with billions in revenue.	The challenger, Bit coin, the world's first decentralized digital currency
SECURITY	
For most people using PayPal is an acceptably	At its core Bitcoin promises to be the most secure

CANADA	Like its southern neighbour the United States, Canada maintains a generally bitcoin-friendly stance while also ensuring the crypto currency is not used for money laundering. Bitcoin is viewed as a commodity by the Canada Revenue Agency (CRA). This means that bitcoin transactions are viewed as barter transactions, and the income generated is considered as business income. The taxation also depends whether the individual has a buying-selling business or is only concerned with investing.
AUSTRALIA	Australia allows entities to trade, mine, or buy bitcoin. The Australian Taxation Office (ATO) considers bitcoin transactions barter arrangement subject to appropriate taxes depending upon the use and user.
EUROPEAN UNION	Though the European Union (EU) has followed developments in cryptocurrency, it has not issued any official decision on legality, acceptance, or regulation. In the absence of central guidance, individual EU countries have developed their own bitcoin stances. A few nations are allowing bitcoin while others are either undecided or issuing warnings.

COUNTRIES THAT SAY A 'NO' TO BIT COINS

COUNTRIES	LEGALITY
ICELAND	The island nation has been exercising stringent capital controls as a part of its monetary policies adopted after the global economic crisis of 2008. It seeks to protect the outflow of Icelandic currency from the country. Under the same pretext, foreign exchange trading with bitcoin is banned in Iceland as the crypto currency is not

this point, a quick explanation on multisig (multiple-signature) wallets will probably be helpful. Multisig wallets require two or more private keys before the coins can be released. This adds more security and can potentially be used for all sorts of interesting uses, like shared accounts and business contracts. Expect multisig wallets to become a huge part of the Bitcoin ecosystem over the coming years.As mentioned, web wallets add a level of convenience that software wallets can't such as being able to access your funds from any device, for example. But keeping Bitcoins in an online wallet is a bit like keeping them in an uninsured bank in the old American Wild West. So long as the wallet/exchange remains secure, so will your Bitcoins. But, if something goes wrong, there are little to no options to get your Bitcoins back.

3. PAPER WALLETS:

Paper wallets are the closest thing Bitcoin has to a physical form. Private and public keys can be printed out or even written down, and so long as the computer data that stored that information is deleted, no one can get to it.The popular web wallet services, like Coinbase and blockchain.info offer a service that make it easy, but if you are the paranoid type you can go to bitaddress.org and create one yourself. Either way, once Bitcoin is “moved” to a paper wallet, no nefarious parties can get a hold of it without getting access to that slip of paper.Using the public key, you can send more Bitcoins to the paper wallet without bringing it back online. However, if you want to spend any of that money, you will have to bring the private key back online and “sweep” the account into an online or software based wallet.The advantage of paper wallets is that they essentially store your Bitcoin on a physical piece of paper, removing it from the digital world and safeguarding it in the physical one. This makes them essentially unreachable for spending until they are brought back online, but it is the most secure way to store Bitcoin long term.The most convenient Bitcoin wallet is web wallets or online wallets. These are run by third party companies that make it easy to access your Bitcoin to purchase items or quickly trade Bitcoin. The trade off is having to trust a third party for your Bitcoin's security.

4. HARDWARE WALLETS:

Hardware wallets that can only be accessed with physical contact to the wallet have hit the scene this year, although they tend to be back ordered pretty heavily. They essentially work like a USB stored wallet or as a way to securely keep track of several paper wallets.Bitcoin is a “trustless” system, meaning you don't have to give every merchant the information they need to steal your money every time you use it. This fundamental function makes Bitcoin inherently safer than fiat currencies. However, as with any new, confusing technology, there are an increasing number of fraud attempts and scam artists lurking through the internet, looking to steal a few Bitcoins. Thankfully, Bitcoin has more than a few options to give each user the right mix of security and accessibility.

to build blockchain-based applications for payments, big data and digital experience.

The hackathon is sponsored by Microsoft, IBM and Citruspay, and the executives of these companies will participate in the event as mentors and panelists,*Bitcoin Magazine* reported previously.
"We were fortunate to be a part of these events as title sponsors as well. We had given out challenges with Bitcoin-related builds and got many entries from participants," Benson told *Bitcoin Magazine*. "This is heartening, because it is a huge change in the ecosystem compared to what India has been doing with Bitcoin over the past few years," he said. "Larger companies are exploring the blockchain, and as they understand it better they will turn to Bitcoin as well. Almost eveyone at these events had heard about Bitcoin and were curious to know and build more."

E-Paisa enables bit coin acceptance for its merchants [Economic Times]

Start-up ePaisa which offers multi-lingual mobile-based applications for cash and card payments has launched a first-of-its-kind initiative enabling its merchant outlets to accept bitcoins as a mode of payment. The service will be available in around 500 outlets of epaisa in New Delhi, Mumbai, Pune, Surat and Ahmadabad."Around 35 thousand bitcoins have been traded in India last year, and there are around 50 thousand bitcoin users," says Siddharth Arora, cofounder and CEO of ePaisa, who added that ePaisa merchants have the option of converting their bitcoins into Indian rupees and transferring it into their account."So far, there has been no facility enabling smaller merchants to accept bitcoins in India. Only big retailers, especially from the US are accepting bitcoins," said Arora, who expects that ePaisa merchants in Mumbai and Delhi to use the facility more than others, as these metros have a fair number of international customers as well as travelling Indian customers.The company has employed an aggregation mode to enable bitcoin acceptance and has tied up with back-end bitcoin exchanges for this purpose. "We will soon introduce mobile wallet acceptance facility by tying up with other payment gateways. With bitcoin acceptance also being enabled, we aim to help our merchant outlets accept all modes of cashless payments through the app," said Arora, adding that ePaisa is targeting reaching out to 25,000 merchants by 2020.Sathvik Vishwanath, CEO of startup Unocoin, a bitcoin exchange and merchant processor says that mass acceptance of bitcoins by merchants is still a couple of years away. Vishwanath is also part of the Bitcoin Alliance India, which spreads awareness on crypto currencies. "We are seeing a monthly traction of 20% as far as bitcoin usage and acceptance is concerned. The US has 100 thousand business outlets that accept bitcoins. To get to that kind of number, India will take at least two-three years," he said.
Bitcoin is just starting out, and it needs to work out its problems just like how any currency in its beginning stage would need to.

The King's College New York is Now Accepting Bit coin for Tuition Payments

The King's College, a private Christian liberal arts college located in New York City's financial district, is now accepting bitcoin for tuition and other expenses through a partnership with merchant processor Coin.co.

The announcement by The King's College marks the latest major university to accept bitcoin following decisions from the University of Nicosia in Cyprus and more recently the UK's University of Cumbria. Although California-based online and residential school Draper University announced its decision to accept bitcoin in 2013, the move by The King's College into the bitcoin ecosystem is notable due to the fact that it is a more storied private institution, having been founded in 1938.

Despite coming from the more traditional educational system, Dr Gregory Thornbury, President of The King's College, told CoinDesk that the decision to accept bitcoin is one that is very much in line with his school's core values:

> *"We have a strong emphasis on the founding documents of the US, the Constitution and the Bill of Rights, which are very individual based. Bitcoin represents that, it's the empowerment of individuals."*

Further, Thornbury suggests that the move is one other universities would be wise to consider, given the current problems facing the higher education system in the US, saying:

> *"Adopting or taking seriously disruptive technologies in the delivery of the educational program is something that everyone needs to be studying, and I think [bitcoin] is one aspect of that."*

The King's College campus is located at 56 Broadway, New York, in close proximity to the epicenter of traditional finance, Wall Street.

Powerful technology

Thornbury further discussed The King's College curriculum, drawing comparisons between bitcoin and the teachings it could help impart on its roughly 600 students.

The school president explained:

> *"We have an Oxford University-style politics, philosophy and economics core, with a strong emphasis on business and finance. We're always very interested in developing advent technologies in business and finance, and certainly bitcoin would be one of those."*

Additionally, Thornbury stressed that, while not an avid user of bitcoin, he sees the technology as a powerful one, likening the transformations it could bring to the financial system to the advent of email in the 1990s.

The above diagram shows how bitcoin activity stacks up against other payment networks with respect to the daily transaction volume of selected payment networks.It shows the various payment methods like visa cards , master cards , china union pay , American express , bitcoin etc. of which visa cards are the most sought for making payments whereas bitcoins share is $289 m after paypal and before western union which shows that bitcoin are still used as a form of payment activity globally as compared to all other payment methods.

SWOT ANALYSIS OF BITCOIN

- **STRENGTHS**

  Anonymity

  Low transaction cost

  International

  Fast

- **WEAKNESSES**

  Bad reputation

  Fluctuating exchange rates

  Virtual money

- **THREATS**

  Governments:

  Government may refuse to regulate this cryptocurrency as it would add to more competition and regulatory norms in the market.

- **OPPORTUNITIES**

  Large market:

  Since the currencies and the market is so vast in the world bitcoin will have a very wide number of opportunities

  Internationalization

services, but doesn't need to be widespread, then Bitcoin can indeed be classified as currency. One thing is for certain, though: The government doesn't view Bitcoin as legal tender, and instead classifies it as a virtual currency. It isn't made clear if the term is only applied to something open like Bitcoin, or simply any kind of alternative to cash that you can purchase with legal tender, such as Riot Points in League of Legends.Regardless of how you classify Bitcoin, whether or not the very thought of it makes you laugh uncontrollably, or reminds you to move your account to a new virtual address for safety's sake, certain people out there are accepting it as currency. If it eventually rises to prominence and overtakes the US dollar as the main form of currency people are using, then you can bet the government will take action, which would in turn classify the cryptocurrency for once and for all.

Bitcoins just topped $200 in real money

Virtual currency Bitcoin hits record high and tops $200 for the first time.

- By Evan Dashevsky | Tech Hive US | 09 April 13

In the wake of the global economic trainwreck, people have started to lose faith in traditional banking systems. For your AM-radio listening uncle, this has meant investing in gold, which is trading near all-time highs. For experimental Web-enabled investors, this has meant placing money in the P2P virtual Bitcoin economy, which surpassed $200 for the first time on Tuesday. This peak is particularly surprising in the wake of news that just last week, the Web's most popular bitcoin exchange, Mt. Gox was temporarily taken down by a severe DDoS attack (the company has plans to separate their front-end site the trading platform in order to avoid these types of attacks in the future). That same day, the online bitcoin "wallet" service Instawallet announced that it would be accepting claims for stolen bitcoins after its database was hacked. Despite these pitfalls of investing in a virtual and unregulated market, the Bitcoin economy continues to thrive (or the bubble continues to expand, depending on who you ask). Just last week, the total Bitcoin economy surpassed $2 billion and has surpassed 42 national currencies in total volume.

While experimental, nation-less forms of money are nothing new, and Bitcoin has proven its aptitude for wild swings in valuation, the currency's rise from obscure top-shelf mathematical concept into mainstream phenomenon has been startling. The decentralized currency based on open-source Internet protocol is quickly being turned to as a potential safe haven. Particularly in Europe, where the global elite had no problems raiding the savings accounts of everyday folks living and working in Cyprus.I don't have to rehash the story here. You know how it went down.Blatant bank raids in the middle of the night welcomed the world to the reality of tyrannical governments owned by tyrannical banks. It's a reality that we all must face in an age

of unbridled globalization where a handful of kings and dictators call the shots behind the backdrop of fiat currency, surveillance drones and a red velvet rope to keep out the undesirables.We've actually been warning of this day for years, screaming from the rooftops to buy gold, guns, seeds and soil. Because make no mistake about it, the money in your wallet and in your bank account becomes worthless when the proverbial poop hits the fan. Just ask they Cypriots.Of course, due to what we've seen over the past few weeks, perhaps we should consider adding bitcoins to that list.

Bitcoin: Virtual Currency Enters Real World

Welcome to the real world, Bitcoin. The U.S. government has officially legitimized the popular crypto-currency and other "virtual currencies" by attempting to regulate them.
The U.S. Treasury's Financial Crimes Enforcement Network published a list of guidelines Monday applying money-laundering and record-keeping rules to companies that issue or exchange these currencies. This won't affect people using Bitcoins to purchase goods or services.The guidelines reflect rising concerns about virtual currencies' use in illegal activities, and risks associated with hacking, account thefts and software glitches, as seen in a Federal Bureau of Investigation report last year.They also are a testament to Bitcoin's growing popularity. Bitcoins reached an all-time-high valuation of $74 yesterday. The surge in the exchange rate this week coincided with concerns that the Cyprus government would take euros from saving accounts to pay its bailout bill. Bitcoin is increasingly seen as an alternative to traditional currencies." Created by mysterious programmer Satoshi Nakamoto in 2009, Bitcoin removes the reliance on financial institutions from transactions. The currency, which offers users privacy and anonymity, is often celebrated as "democratic" money because exchanges can occur directly between individuals. The network is a decentralized system of tens of thousands of personal computers.The Bitcoin Foundation responded to the new guidelines in a statement Tuesday, saying the new rules could be infeasible "for many, if not most, members of the bitcoin community to comply with." The change could affect people who "mine," or create, new Bitcoins (and are rewarded with Bitcoins as payment) by making them register

with the government if they transmit Bitcoins into another currency. Some companies anticipated the rules. BitInstant, a payment processor that exchanges dollars into Bitcoins at more than 700,000 locations, is already compliant, the Wall Street Journal reports. And there are plenty of legitimate uses for Bitcoins that could benefit from government oversight. People can use them to make purchases on the websites Reddit and WordPress, for example. One guy even listed his Canadian bungalow for sale in Bitcoins.For Bitcoin to attract new users and

larger sums of money, identification and accountability are necessary. The next step may be to increase the ease of use and integration into existing banking structures. The Bitcoin-Central currency exchange partnership with French financial firm Aqoba in December offers a model for what that might look like. The partnership allows Bitcoin-Central to issue debit cards that can convert holder's Bitcoin balance to euros, and the euro balances of the accounts can be government insured.The buzz about Bitcoin in the euro area and the U.S.'s new guidelines are a sign: Governments can't ignore Bitcoin anymore

Bitcoin, its competitors and uses: Is this crypto-currency an alternative to World currencies?

- April 15, 2013 By Desh Kapoor

Bitcoin is a cryto-currency – not a real currency, but acting as one. It is the new rage these days.Bitcoin (BTC) is an online commodity that is based on an open-source, peer-to-peer encryption protocol first described in 2009 by a pseudonymous developer (or developers) Satoshi NakamotoIts market is considered to be around $1-2 bn depending on the valuation. But there are competitors to Bitcoin already and their market is picking up as well.

Some of these competing currencies already represent significant stores of value. The value of a single bitcoin on the most popular exchange was $93.70 at time of publication, and the total value of all bitcoins in circulation just more than $1 billion (it was more than $2 billion at the market's high point last week). The largest alternative cryptocurrency, litecoins, were worth $3.11 each and $38 million in total, the next largest, PPCoin, were worth $0.22 each adding up to a total value of $4 million.Bitcoin is based on mathematical techniques that control the production of new bitcoins, make it possible for a person to verify money sent to them is genuine, rule out counterfeiting, and limit the maximum number that can ever exist (to 21 million).How does the Bitcoin – crypto-currency work?

Based on digital signatures, payments are made to bitcoin "addresses" or "public keys": human-readable strings of numbers and letters around 33 characters in length, always beginning with the digit 1 or 3, as in the example of 175tWpb8K1S7NmH4Zx6rewF9WQrcZv245W.

Users obtain new bitcoin addresses as necessary; these are stored in a wallet file with links to cryptographic passwords or "private keys" that enable access to and transfer of bitcoins. A file or "wallet" containing bitcoin addresses is usually encrypted with an additional password. Initially, when it started Bitcoin had lots of challenges of illegal activities. And, the critics of Bitcoin trashed it on that score. But things are picking up in that area now, as more and more companies have entered to provide security and block illegal activities in this area.While there might have been issues with illegal activities in the early days of Bitcoin, the market has

numerous obstacles listed in this case?

Bitcoin: A Seemingly Rampant Elevator, or is Someone Pushing its Buttons?

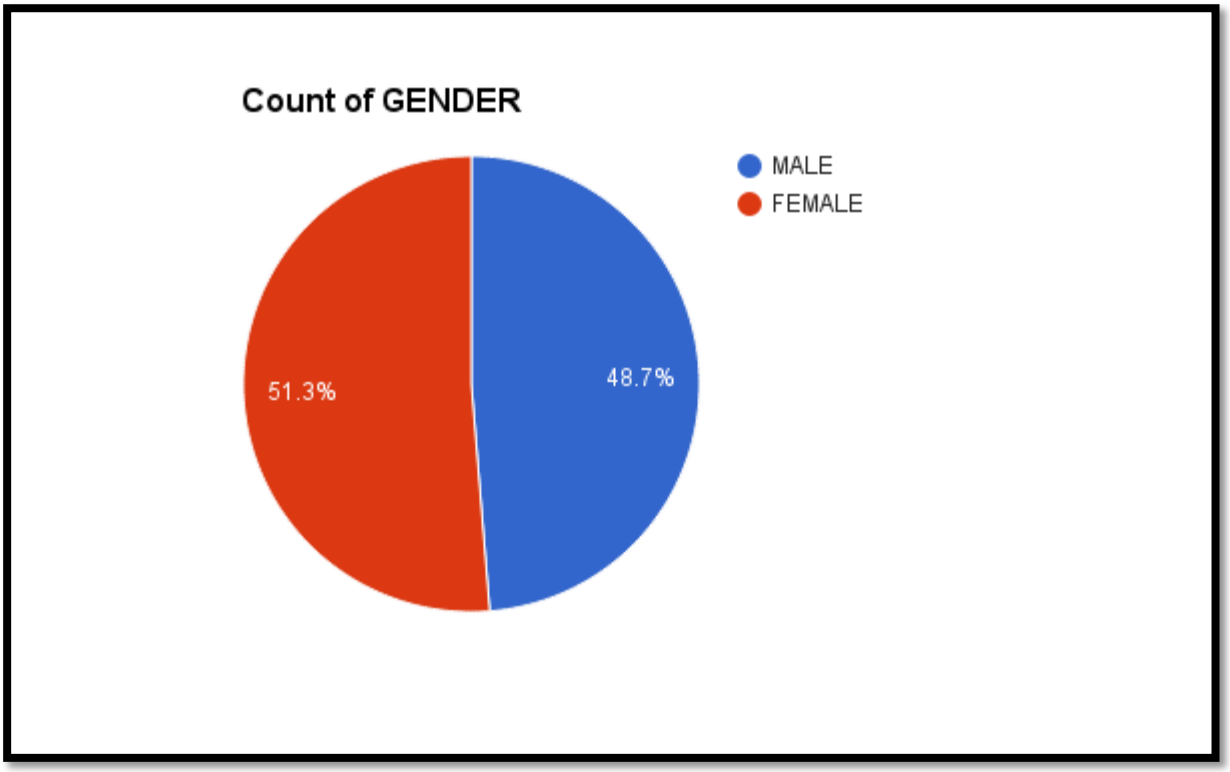
A Case Study on Bitcoin's Fluctuations in Price and Concept.

-By Oscar Wandery

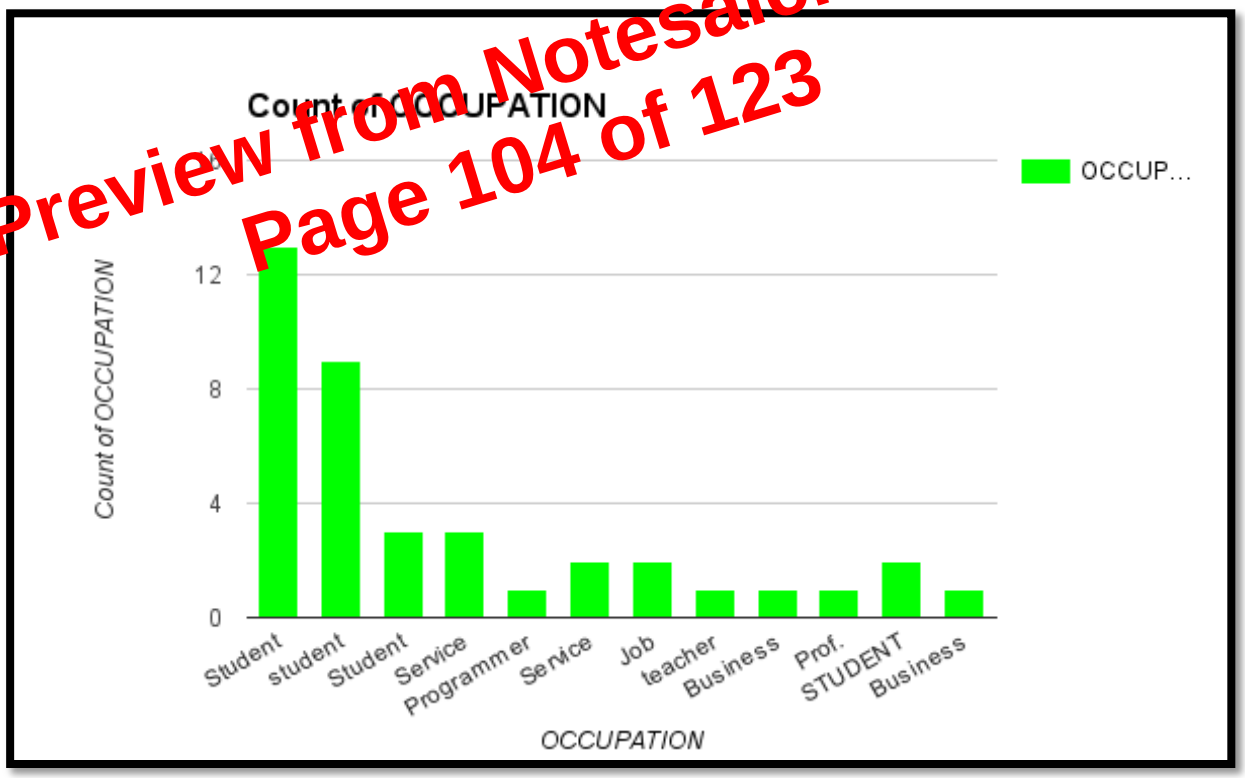
The Workings of Bitcoin:

Bitcoin starts out with the assumption that transaction costs are high due to fraudulent behavior rooted in the double spending problem. This problem gave rise to a trust based system of transaction that relies on financial institutions for the control and guarantee of safe transactions, checking that transactions are not spent twice.If we look at the official document of bitcoin from 2008 it defines an electronic coin as a strain of digital signatures. These digital signatures are created through transactions. Every time someone transfers a bitcoin the sender signs the "hash" of the previous owner that is left from all previous transfers as well as the public key of the receiver. And then this is added at the end of the digital chain. This proves the chain of ownership as well as make the coins "unique". And actually this is the first part of solving the problem of double spending. The second part consists of creating a public log of all transfers. The log shows all transfers taking place and the bitcoins involved. This is done through what is called a timestamp server that takes a hash of different items that wants to be sent and publicly announces these so that they can be checked against previous transfers. This controlling organ in turn needs to be safe and uncompromised. This is done by making the controlling organ into a big system of nodes, that has the incentive to be honest (if a majority of nodes in the controlling organ where dishonest, double spending could occur). These nodes consist of calculating power such as the CPU in personal computers. In principal one CPU (or one calculating power) is one node, or one vote. So the entire idea of the proofing system is that it would be built up by a community of ordinary people running bitcoin software on their PC's. The workings of the node-based system are explained as the following (the bullet-points below are taken directly from the official bitcoin article by Satoshi Nakamoto):

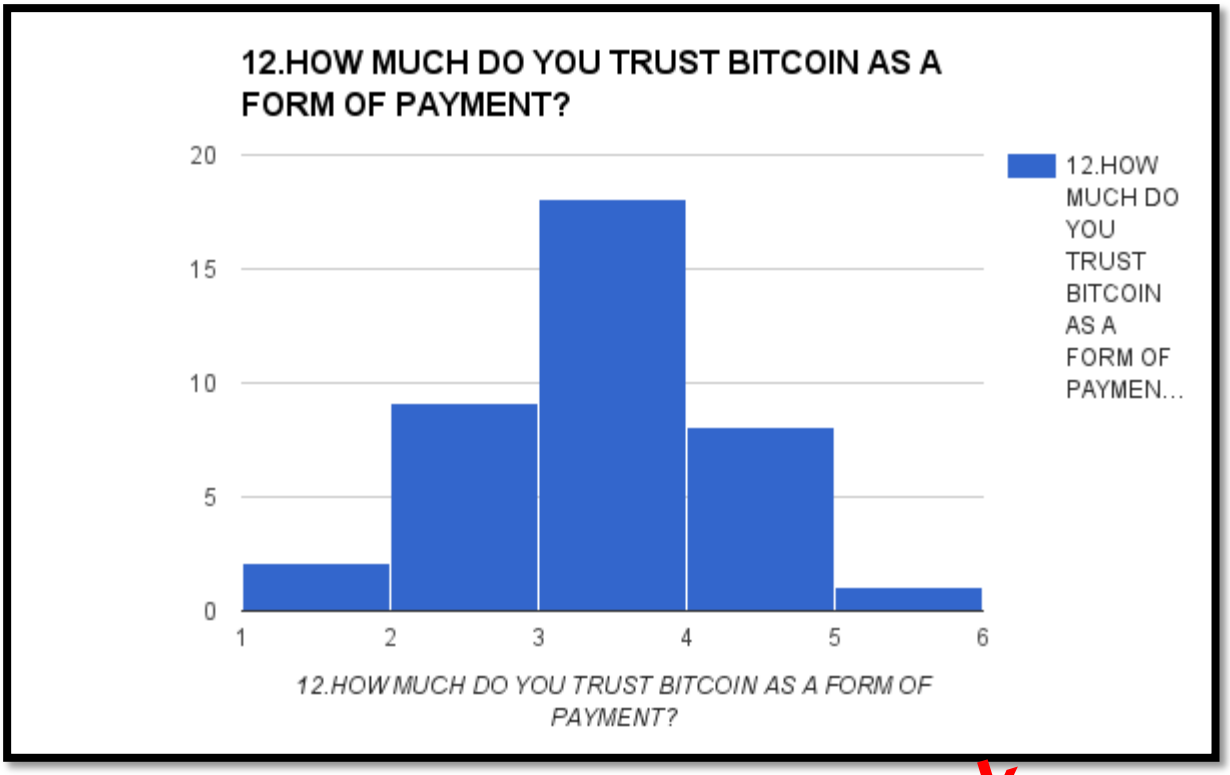
1) New transactions are broadcast to all nodes.
2) Each node collects new transactions into a block.
3) Each node works on finding a difficult proof-of-work for its block.
4) When a node finds a proof-of-work, it broadcasts the block to all nodes.
5) Nodes accept the block only if all transactions in it are valid and not already spent.



C) COUNT OF OCCUPATION:



The above graph shows that the number of respondents who responded to the survey were students with a count of 12 numbers along with it people from different backgrounds also responded which included programmers , service people , business runners , and professors.



The trust factor is one of the important factor in bitcoin as there is no intermediary or third party involved in it.The above analysis shows the ratings given by people for using bitcoin as a form of payment making wherein it can be seen that only some of them trust bitcoin for payment system and the rest are not having trust for its functioning. But on the other side one more added advantage about bitcoin is that when bitcoins were introduced in the market they were immaterial i.e in electronic form but now that virtual currency has came into existence in the form of coins.The research also shows that many shops and institutes accept bitcoins as a form of payment transactions in abroad.

RESPONSES (COUNT)				
1	2	3	4	5
NOT AT ALL				ABSOLUTELY
2	9	19	8	1

CONCLUSION

- From the above analysis and research it can be concluded that Bitcoin is a new concept, but it's in the process of being understood and adopted by a growing number of consumers, merchants, and investors around the world.
- As this process continues the reasons to start using bitcoins are becoming more compelling.
- There is also increased investment in the sector and many new finance companies are offering more professional and consumer friendly solutions for everyday use.
- Bitcoin poses some technological and financial risks, namely the permanent loss of capital. However as these risks are mitigated, more consumers, merchants, and investors should start learning about and using Bitcoin.
- Are virtual currencies like Bitcoin the future? They may be. At this point, Bitcoin is an innovative and novel payment method.
- There is tremendous value in challenging traditional payment methods and reducing costs associated with making payments.
- This incentivizes traditional intermediaries to create new, cheaper, and more efficient payment methods in the future, making the future brighter for everyone. Or maybe not.
- Our analysis of data from the Bitcoin system further suggests that Bitcoin is still barely used for payments for goods and services.
- The apparent rise of Bitcoins to the status of a currency which already now can be used to buy real products on the World Wide Web, thus indeed emphasizes that money is a social concept that can self-organize from simple contacts between people.
- It can also be summarized that bitcoin still has a long way to go in the indian economy to come at par with currencies already been floated in the market.
- Bitcoin can, hypothetically, eventually evolve into money through the behaviour of market actors.
- We have shown that Bitcoin can be used as a reliable alternative for fast cashless payments. The low transaction fees of the network (compared to traditional centralized cashless payment processors) and the instant availability of the money to the merchant might render bitcoin interesting for vending machine operators.
- With proper regulatory policies, the world of digital currency can be considered a success also for governments and its users.
- Looking forward, virtual currencies are a part of an emerging market, which encourage both investment and risk.