

**DO BITCOIN AND THE BLOCK CHAIN SUPPORT
INNOVATION AND ENTREPRENEURSHIP**

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Abstract

In this dissertation we will present the Bitcoin and its technology and its supporting feature as a success factor for innovation and entrepreneurship.

We will first demonstrate that Bitcoin is a currency and present its history and technology. Then from our literature researches and the interview we have conducted we will try to answer our problematic: Is Bitcoin and the Blockchain supporting entrepreneurship and innovation?

Finally after crossing the theoretical and academic lectures with the testimony of the real actors we will present our conclusion and recommendation to the lecturers.

Nesta dissertação, apresentaremos o Bitcoin e sua tecnologia e apoiaremos o recurso como fator de sucesso para inovação e empreendedorismo.

Vamos primeiro demonstrar que a Bitcoin é uma moeda e apresentar sua história e tecnologia. Então, a partir de nossas pesquisas de literatura e da entrevista que realizamos, tentaremos responder a nossa problemática: Bitcoin e a Blockchain apoiam o empreendedorismo e a inovação?

Finalmente, depois de cruzar as palestras teóricas e acadêmicas com o testemunho dos atores reais, apresentaremos nossa conclusão e recomendação aos vetores.

Keywords:

- Bitcoin,
- Blockchain
- Innovation
- Entrepreneurship

Classification:

- M13: Business Administration: New firms – Start Up
- E26: Consumption, Saving, Production, Investment, Labor Markets, and Informal Economy: Informal Economy - Underground Economy

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Giving value to something, exchanging, bartering, makes us thinking beings and therefore human beings. Money is one of the founding instruments of our modern societies, and has always fascinated both those who possess it and those who lack of it. Money is the ticket in my pocket and all it allows me to buy. It is a universal “super-object”, a commodity, a certain quantity of precious metal, and at the same time a non-commodity: "It cannot buy himself, but it makes transactions possible.” (François Dagognet, *L'argent : Philosophie déroutante de la monnaie*) But what exactly is money and what are its components? I have chosen to deal with currency in my thesis and more particularly in its most recent forms. Indeed, following numerous financial crises and the opening of the Internet, new currencies were able to see the day: local currency, electronic money or even "loyalty" money. Yet still marginalized and little used our knowledge of it remains very limited and it seems obvious that this future revolution is in its infancy.

But what is money? How can we define it and what are its forms? How can a currency created on computers can impact and transform our everyday life?

Let us examine our present systems and their possible transformations. Let us try to imagine a peer-to-peer world where the individual would have sovereignty over his currency. Remunerating work done objectively, transforming, appropriating and improving technologies collectively and collaboratively through open sourcing. What if the companies were automated with robots, allowing us to fully enjoy our life? ... And if all this was finally possible? Through this dissertation I have tried to shake my horizons and imagine a "different" world. Changing the world is the ambition of all the entrepreneurs and actors of the Bitcoin ecosystem with whom we had the chance to talk to finally understand the Bitcoin phenomenon.

The currency and the appearance of new electronic currencies

The first currencies date from the 7th century BC. They were invented in Asia Minor to supplant barter and meet the needs of trade and social exchanges between human beings. However, in terms of the different cultures and periods in which it evolves, its form differs but its function remains universal.

The different forms of currency we have known are:

- Raw materials
- Agricultural or gathering products
- Artisanal products
- Human being

At its beginning, money was not specifically created for its monetary function. It was rather an object, an already known commodity, to which the status of money was more or less gradually attributed. (Sophie Brana, Michel Cazals, The Money, 2014)

In the 3rd century BC, Aristotle defined money by its functions as a unit of account expressing value and unity for economic calculation and accounting, an intermediary function in trade, unlike barter, sell and buy at different times and finally a store of value which means that the currency induces an ability to transfer the purchasing power in time through the loan.

The evolution of metallic money to paper money as we know it today took place in several major stages. The first was weighted currency, that is to say that the value attributed to a good was made by weighing a metallic object whether it was gold, a piece of semi-precious metals, alloys.

The coinage then appeared through the normalization of the sizes and weights of the coins, it was then sufficient to simply count the coins to determine the value of a transfer of good.

Then, from the Middle Ages, the coins were stamped, that is to say, they were created with the effigy of a king or a sovereign who decided the value (size and weight). By developing, enlarging and harmonizing their kingdoms, kings and sovereigns were forced to create a new

monetary system based on gold and silver. This system specified the free circulation of gold and silver as coins, the establishment of a legal relationship between gold and silver (indicating that x gram of gold equals x gram of silver), and finally the establishment of gold and silver rates.

It was at the same time that the note appeared as paper money, and then as what would be called fiduciary currency from the seventeenth century. This notion of fiduciary money is based on the concept of trust (*fiducia* in Latin) by which a bank engages simply by presenting the note, to convert the sum indicated on it into precious metal. Finally, paper currency also opened the way to the scriptural notion of money which represents a currency existing only through the writings in the accounts of the banks. Settlements will then be effected by the debit and credit of the accounts of the agents involved in the transaction. There is no money transmitted from the payer to the payee, but a simple set of entries in the accounts of the banks. (Sophie Brana, Michel Cazals, *La Monnaie*, 2014). The currency is therefore dematerialized and represents "*an asset accepted by all the agents of a given territory in settlement of a transaction or extinguishment of a debt.*" (Sophie Brana, Michel Cazals, *The Money*, 2014). Today, thanks to the development of the means of payment, "bank money" (scriptural money) represents the vast majority of our transactions. In 2013, 18.6 billion transactions were carried out by customers of French banks for a total amount of 26 686 billion euros (*Cartographie des Moyens de Paiement Scripturaux : Bilan de la collecte 2014*, Banque de France 2014).

We can distinguish the following way of payment:

Payment card	Allows to make payments or withdraw funds by typing a PIN code.
Transfer	Allows to transfer funds between two payment accounts.
Debit	Allows a creditor to initiate the recovery of its claims on its debtor. In doing so, it exempts the debtor from sending a payment instrument at each settlement or due date for recurring transactions.
Interbank payment order (TIP)	Very close to the debit, it allows the debtor to expressly agree with each settlement by affixing his signature on a paper medium that he returns to his creditor.
Telematics payment	Similar to the debit. The difference is that the creditor can initiate payment only after having obtained, by telematics means, the agreement of the debtor.
Pay check	The oldest scriptural payment method. It allows transfers of funds between two persons on the sole basis of a written note and therefore without transport of cash or passage through an electronic system.
Bill of exchange	Written note by which a creditor, called "drawer", invites a debtor, called "drawee", to pay a sum of money on a specified date.
Promissory note	Written notice of a payer, known as the "subscriber", to pay to another person, referred to as "the beneficiary", a sum of money on a specified date.
Contactless payment	Allows to pay quickly for small amounts, without entering a PIN code, by approaching a card or mobile phone from a payment terminal.
Virtual portfolio	Allows to make payments on the Internet quickly and easily without having to enter sensitive numbers (i.e. credit card number, date of validity and visual cryptogram). These data are only requested when the electronic portfolio is created. Thereafter, the user must only enter his identifiers (for example the mobile phone number or the user's e-mail) to perform transactions.

The advent of bank money, the development of new means of payment, the emergence of a movement of distrust towards traditional currencies through the numerous periods of geopolitical crisis (conflicts, wars...) or economic crisis helped the creation of these new electronic currencies in order to meet unmet or badly satisfied needs such as:

- The setting up of solutions allowing users to keep trading in case of an inflation of the sovereign currency.
- A means of financing outside the traditional banking system where access is much harder and requires far more guarantees.
- The fight against precariousness through the creation of a system of exchanges of services and goods to revitalize a sector, to place the individual as an actor in his ecosystem and making him able to consume, even if he has not any "traditional currency liquidity".
- In the case of a lack of liquidity, allowing people to exchange hours of work without the need for traditional money as counterpart.
- The introduction of financial and monetary systems that are much cheaper for users than traditional systems.

(Pierre Antoine Gailly, Nouvelles monnaies : les enjeux macro-économiques, financiers et sociétaux, 2015)

But what are these new currencies? The European Commission defines electronic money as:
"a monetary value that is stored in an electronic or magnetic form, representing a debt on the issuer, issued against the release of funds for payment transactions and which is accepted by a natural or legal person other than the issuer of electronic money"
(DIRECTIVE 2009/110/CE DU PARLEMENT EUROPÉEN ET DU CONSEIL du 16 septembre 2009)

In other words, electronic money refers to any substitute for cash (coins and notes) and is stored in an electronic device or on a remote server.

Thus, electronic money would be a new "support" for classical money acting as a debt written on a memory of a microprocessor or on a memory of a hard disk in contrast to the traditional account book. (David Bounie, *La monnaie électronique : Principes, fonctionnement et organisation*, 2003).

In the second part, I will deal with the new currencies by presenting the different types of money that exist today and then I will present the benefits, stakes and problems that these induce.

New electronic currencies: their uses and challenges

To date, there are two types of technological device able to create and store electronic money. The first is the electronic wallet, a multi-provider prepaid card system experienced locally in France and in several other countries, for example Monéo (Jean-Stéphane Mésonnier, *Monnaie électronique et politique monétaire : une revue des débats récents*, 2001). First introduced in France in 1998, it aims to act as a substitute for coins and banknotes and aims to reduce the costs of collection and storage of coins. The system is therefore totally controlled by the banks since this electronic purse is connected to a current account.

The second technology is the virtual wallet operating on the same principle as the electronic wallet except that the electronic units are loaded on software stored on a computer or on a server. It is only thanks to this technology that electronic currencies or cyber currencies can exist. But above all, they are totally independent from the traditional system since they are not connected to a bank account.

Regarding these technologies, we can therefore distinguish three types of electronic money systems:

- Electronic wallets such as Monéo
- Virtual portfolios such as Paypal
- Cyber and crypto currencies

In this section, and throughout my entire thesis, I will focus on the cyber-currencies. These independent currencies created without any support or state intervention are the result of the booming of the Internet and recent peer-to-peer technologies.

These currencies, often of an ideological nature, help to carry out transactions with global dimension but above all they give back to users a total freedom and anonymity of transactions. Moreover, most crypto-currencies are also designed with the aim of gradually introducing new currency units, putting a brake on the maximum amount of money in circulation in order to replicate the scarcity (and value) of precious metals and avoid inflation phenomena. Today there are about 750 crypto-currencies, all derived from the first fully-implemented crypto-currency: the Bitcoin.

Representing more than 90% of the business, Bitcoin has become the benchmark in crypto-currency. Created in 2009 by an unidentified developer using the pseudonym Satoshi Nakamoto, the Bitcoin *“is a peer-to-peer electronic payment model, enabling people to send money directly from one person to another, without going through a financial institution”* (Satoshi Nakamoto). The goal of Satoshi Nakamoto was to create a money circulating on the Internet in a decentralized, virtual and private way (without state intervention or support), and kept through virtual portfolios or offline servers. The monetary creation of the Bitcoin is not related to wealth creation in the economy but to a computer algorithm independent of the activities of central banks (Satoshi Nakamoto). This implies that the Bitcoin has no intrinsic value linked to a precious metal or a counterpart in the real economy (Gabrielle Durana, Bitcoin: bulle ou révolution? 2015): the Bitcoins are therefore issued as a reward and belong to the owners of the computers that concur to solve the necessary calculations (Julien Pruvost and Philippine Robert, Une monnaie chère à produire, 2015).

In parallel with this, other users can acquire Bitcoins via secondary markets (organized exchanges, traded against their national currencies).

The Bitcoin also has a pre-set algorithm stock of 21 million Bitcoins, which will be reached by 2035. This means that from this date only a certain number of currencies pre-established by the Nakamoto algorithm will be available: just like gold, it is the rarity of the Bitcoin that will make its value.

Although little known to the general public, the Bitcoin developed very rapidly: by April 2015, 14 million Bitcoins were circulating, representing the equivalent of \$3 billion. (Gabrielle Durana, Bitcoin: bulle ou révolution? 2015). Several factors explain why this currency is so little known to the general public. First of all, the technologies that it uses seem at first sight complicated to understand and use for an Internet user who does not have a real knowledge of its functioning and its uses. One can also explain this low visibility by the unpopularity of Bitcoin to the general public. Indeed, banks have no interest in seeing a totally independent world currency arrive on the market and over which they can have no control on. The press has also played a role since it only highlights the deviant and scandalous aspects of the Bitcoin (financing of terrorism and drug dealers, scandals of Bitcoin banks fraudulently closed ...).

Finally, and aside from these external aspects, the unpopularity of these cyber-currencies is due in large part to the problems they pose in regard to the stability, security and moral liberty of transactions. The instability and uncertainty of the cyber-trading system represent a significant risk. Indeed, there is strong competition from the various private networks of cyber currencies in order to reach their critical mass of users. The term critical mass of users represents the crucial time when the currency used is accepted by all users. Indeed, a currency is globally accepted by everyone when it is accepted by the other. This leads to a form of inter-network competition, which in turn leads to instability in market shares. To better understand this phenomenon, one must first understand how these payment networks are composed.

A network is composed by:

- A group of electronic money issuers using a shared monetary mark, eg the Bitcoin.
- A clearing and settlement chamber (which keeps record of the transactions between the different participants and settles the balance of their exchanges), it acts here as a chamber of exchange where one exchanges for example 1 Bitcoin against 200€.
- A central organization that manages the rules of the network (identification of users, authentication of messages against fraud, transmission of data ...) and supervises the risks of issuers who are members.

The issuers are not attached to any networks; they will rather try to emit on several networks in order to share the risks as in traditional finance. Only if an important issuer decides to migrate from a network A to a network B, then it will cause A to pass below its critical mass of users. This will result in a rush away from the payment instruments offered by A, without any guarantee that B can instantly handle the sharp increase in payment service requests. Not only is A's clearing house risking bankruptcy possibly followed by a collapse of its network, but also by operational problems will disrupt the payment services of all B users. The more a bankrupt network is exclusive, the more disruptions in payments are reflected in other networks that may lead to speculation and the collapse of one or more networks. (Michel Aglietta and Laurence Scialom, *Les risques de la monnaie électronique*, 2002). In addition, the Bitcoin is an extremely volatile currency that reacts to its own rules since it is indexed on no real value. In January 2013 the Bitcoin price oscillated at \$ 15 to reach \$ 1,000 ten months later and then collapsed in January 2014 (- 30% within 48 hours).

The security of the Bitcoin and the other crypto currencies is based on the cryptography (2) and the algorithms that flow from it. However, it is well known that the same "cyber community" that creates these algorithms is also very prone to break and find the key of these codings, which even gives rise to "competitions". Security can never be fully guaranteed, and cases of fraud can thus occur, especially on the peer-to-peer networks hosting these cyber currencies. Three types of fraud are associated with the transfer of currencies: the secure identification of the origin of a message (authentication) from a computer linked to a network immersed in the cyberspace, where anyone can intercept a flow of information; verification that the content of the message has not been altered in its transmission; saving the destination of the message, to prevent hijacking. (Michel Aglietta and Laurence Scialom, *Les risques de la monnaie électronique*). So if hackers happen to be able to break the security algorithms, they can steal Bitcoins to other users.

Finally, with the creation of these crypto currencies aiming at freeing our transactions, several criminal actors seized this opportunity and took advantage of it to launder fraudulent money, sell illicit goods through the DarkNet (3) and its sales platforms. The best known one is called Silk Road, on which any user can buy whatever he desires (drugs, weapons, pedophile content, hitman and so on). The Bitcoin poses moral questions but the vast majority of its users are very attached to this founding value of freedom and confidentiality of transactions.

² Cryptography is a method of storing and transmitting data in a particular form so that only those for whom it is intended can read and process it (*Les risques de la monnaie électronique*, Michel Aglietta et Laurence Scialom).

³ Anonymous encrypted virtual network, hard to spot and designed to work with a limited number of known contacts.

In spite of all these elements, many people and personalities believe that the Bitcoin represents a "*technological tour de force*" (Bill Gates), whose technology would be at the origin of a new revolution of Internet 3.0. Independent and allowing confidentiality and freedom on unregulated transactions, these cyber currencies would help to combat totalitarian regimes, facilitate international transactions and exchanges by reducing costs and delays, facilitate access to independent funding from banks and give back power to citizens by allowing them to get out of the current banking system, the fragility of which has been proved many times over the last few years.

But is this system applicable on a commercial and entrepreneurial scale? The professional use of Bitcoin and cyber currencies is still very limited. In 2014, the US Senate estimated that 12,000 businesses customers to pay in Bitcoin, compared with 29 million for Visa credit cards (Tony Gallippi, The Present and Future Impact of Virtual Currency: Hearing Before the Subcomm. On National Security and International Trade and Finance of the Senate Comm. On Banking, 2014). So we can see that Bitcoin has potential since it is a new technology still little known. It could possibly have a major transformation impact on our daily lives. It seems pertinent to take a closer look at it by understanding its functioning and by making a diagnosis of its ecosystem in France. Moreover to this day, not many serious academic studies were made of the Bitcoin. So we decided to bring a bit of objective light and confront the Bitcoin with the current entrepreneurial reality. Thus we would like to propose to our readers the following problem:

Do Bitcoin and the Blockchain support start-ups and innovation?

Academic readings

Since 2013 and the media coverage of scandals such as the closure of the "dark-web"⁽⁴⁾ Silk Road website and the investigation procedure of its founder for having sponsored the assassination of several people via its platform, the Bitcoin and other crypto currencies made the first page of many newspapers. It was no longer only known by a small virtual and technophile community. Indeed, more and more companies have embarked on the Bitcoin adventure either for the highly speculative aspect of this currency, the potential market that it would represent in the future (a study carried out by the English company Juniper Research estimated that there would be nearly 5 millions of active users by 2019) but also for social reasons, freedom and technological innovation. It is through various readings that we will try to see but above all to understand whether the bitcoin and other crypto currencies can support innovation and business creation. Since its creation in 2009, the Bitcoin has kept on developing and attracting more and more users, professionals or individuals. Between 2011 and 2015, the number of transactions rose up from less than 1,000 transactions per day in January 2011 to nearly 250,000 for the month of December 2015.



⁴ Dark web: private network to share anonymous peer-to-peer files (IP addresses are not shared publicly) and therefore users can communicate with little fear of government or business interference. For these reasons, dark webs are often associated with radical political communication and illegal activities

Thus the enthusiasm that the Bitcoin has aroused since its creation and the media coverage around it does exist. But what is the typical profile of its users?

In their study Aaron Yelowitz and Matthew Wilson distinguish 4 typical profiles of its users:

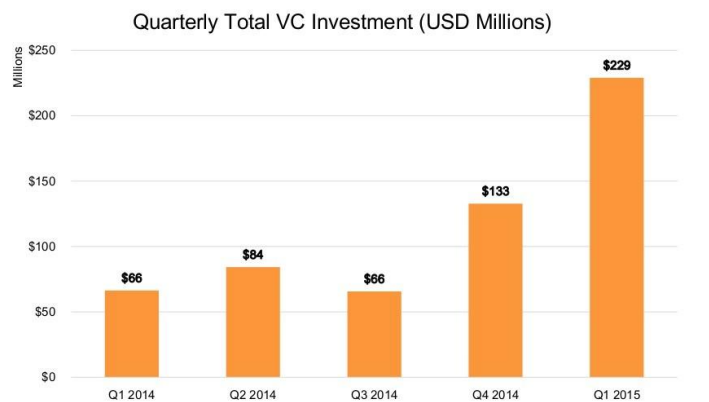
- IT enthusiasts aroused by Bitcoin, its complexity and its "mining" activities (5)
- Speculative investors seduced by the currency volatility
- Libertarians opposed to the inflationary intervention of the central banks and interested in the freedom that this currency offers
- Criminals attracted by the anonymity of the Bitcoin

It is estimated that the main players in the market are speculators, in the form of hybrid players (companies, specialized companies), representing 60% of the users and dealing with almost half of the transactions. These users composed of investors, speculators and players are aware of the risk of bitcoin exchange but also know it can be benefic. For the last three years they have seen their share increase in total bitcoins.

Several studies highlighted the speculative profile of the majority of users (Lui, 2013 and Waykup, 2014). These studies were conducted with users of Bitcoin to determine their motivations to use this crypto currency. According to Lui, the main motivations are: curiosity, profit and politics. Waykup goes a step further by finding that the motivations for French-speaking users are: "investing and speculating (27%), avoiding banking fees (21%), making transactions confidential and secure (16%), selling services easily (10%), being a miner (10%), avoid taxation (8%), anonymity (7%). However, the lack of respondents and reliability of these studies forces us to relativize the results. Moreover, the number of investments in Bitcoin start-ups has grown steadily and is now reaching substantial amounts, demonstrating the interest of "classical" investors: \$676 million were invested in start-up companies of the sector since the creation of the currency (Coinbase).

⁵ Mining : The use of computer hardware to perform mathematical calculations for the Bitcoin network to confirm transactions and increase security.

Q1 Set a Record for Bitcoin Venture Capital Investment, Nearly Doubling Q4 2014



Data sources: [CoinDesk](#), [CrunchBase](#)

State of Bitcoin Q1 2015

CoinDesk

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Lastly, the number of companies accepting payment in Bitcoin has also been increasing. It is now estimated that about 88,000 companies at a worldwide scale accept Bitcoin as a means of payment. This figure is expected to reach 120,000 by the end of 2015.

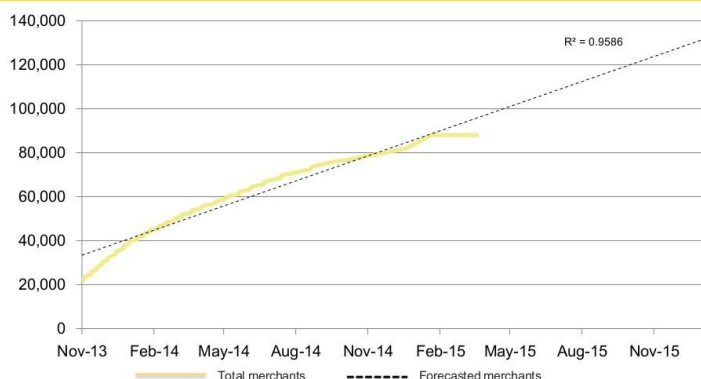
Among these companies are big names such as Dell,

Google, Reddit or Expedia, which offers its customers to pay their travel fees in Bitcoin.

Through all these figures, it seems clear that the Bitcoin is more and more accepted and adopted. More and more cities are setting up Bitcoin distributors to exchange Bitcoins against traditional currency, digital wallets are more and more intuitive, easy to use and easily found on the App Store. There are also new direct debit card payments systems, which can

be used in all shops and allow users to pay in bitcoins wherever credit cards are accepted.

Bitcoin-Accepting Merchant Forecast Slashed to Approximately 120,000 by End of 2015



Data sources and notes: Total current merchants based on data from [Coinbase](#) and [BitPay](#). Historical Coinbase data provided by [BitcoinPulse](#). BitPay historical data between new merchant press release announcements of 10,000 (18th Sep 2013), 20,000 (13th Jan 2014) and 30,000 (28th May 2014), respectively, calculated using linear interpolation.

State of Bitcoin Q1 2015

CoinDesk

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The use of Bitcoin is also increasingly recognized and supervised by the authorities (BitLicense 10, reconnaissance du Bitcoin comme monnaie par le Canada ou l'Allemagne).

In the coming years the Bitcoin promises to have a resounding impact on the global economy and the way we think our financial systems. John Gapper of the Financial Time says that "virtual currencies remind the web of the early 1990s. They have the same potential for innovation. The wild youth of Bitcoin must not make us lose sight of what it might eventually become. "

But why this Bitcoin arouses so much interest? And what attracts more and more companies in the Bitcoin adventure?

The choice of Bitcoin

According to John Gapper (Bitcoin est bien plus qu'une monnaie pour spéculer) the greatest potential of the Bitcoin is its use as a mean of payment. Indeed, Mr. Nakamoto, creator of the Bitcoin, defines it as "*an electronic means of payment*" enabling users to exchange valuable securities securely, without any intermediary, even banks. The agreement is authenticated and registered by the network. Thus, it is possible for the user to make rapid and inexpensive exchanges, not only of currencies but also of other assets, goods and services, from peer to peer and with no intermediaries. Bitcoin and crypto currencies have value for what they allow the user to do and not for their intrinsic values as is the case for traditional currencies; which are also controlled and indexed by central banks. (John Gapper). Thus, in a global way, it seems pertinent to state, as does John Grapper, François Deschamps, Aviv Zohar and many others, that one of the major advantages of the use of Bitcoin is the replacement of intermediaries, optimization of bank transaction costs or currency fluctuation, and above all the reduction of the powers of banks and other third parties involved in transactions.

Indeed, as François Deschamps explains, "*No one in particular and everyone both control and own the Bitcoins. Thus, when a transaction in Bitcoin is realized between two parties, the currency does not pass through any intermediary and is exchanged, so to speak, over-the-counter, just like cash. As such, there is no justification for transaction fees, and once the payment is made, it becomes irreversible.*".

In the case of a "traditional" foreign exchange transaction in a bank, the number of transactions and intermediaries increases considerably, since the bank passes through correspondent banks, stock exchanges and clearing houses, all of which are subject to specific and strict regulations. This generates additional costs and takes a much longer time, when a Bitcoin transaction is immediate.

Moreover, transfers are extremely lucrative for banks "*compared to the risks of capital loans*" (John Gapper, *Bitcoin est bien plus qu'une monnaie pour spéculer*). According to the International Payments Framework Association, the average margin of cash flow on global transactions was 38% in 2010.

In his article "Bitcoins, geeks adore it, others want its death", Sébastien Julian goes even further in this analysis by quoting Jean-Michel Cornu, European expert in the field of cooperation, collective intelligence and new technologies: "*With the bitcoin, it is possible for example to transfer funds to Africa with transaction costs close to zero, whereas with Western Union you have to pay a commission of 12%*" and Garrick Hileman, a British researcher at the London School of Economics, for whom "*using bitcoin at a large scale would save several hundred billion dollars a year in fees on transfers, foreign exchange charges or late fees*".

Bitcoin now represents a powerful means of payment and transfer of money at a low cost and in real time. It enables companies to deal with partners around the world and at the same time protect themselves from some expenses, which greatly facilitates the exchanges.

Let's take the example drawn up by François Deschamps, the e-merchant dealing with one of its consumers in Bitcoin finds itself protected against possible costs related to cancellations of payment from the buyer. "*In the event of discontent from the buyer, the e-marketer can always reimburse it a posteriori against a return to sender of the product purchased. In addition, this method limits the risks of fraud with bank card.*" (François Deschamps, *Les Bitcoins se payent l'e-commerce*). In the long term, according to Pierre Noizat, the Bitcoin will "*transfer shares and ownership*" destabilizing the equivalent of \$200 billion market capitalization and allow a 90% reduction in transaction costs for consumers.

Additionally, the Bitcoin could enable more than 2.5 million people who do not have access to the banking system to have access to a financial system, a “bank” account where they can deposit money, make it speculate and exchange it throughout the world without any intermediary and therefore without any cost. In developing countries where the banking system is non-existent or very unstable, or in countries whose banks have completely ruined some of the companies, individuals and private company could be capable of dealing and trading with the whole world. (Paul Vigna et Michael Casey, *The Age of Cryptocurrency: How Bitcoin and Digital Money are Challenging the Global Economic Order*).

The second reason that companies have to engage in the Bitcoin adventure is political and libertarian. It reflects a growing suspicion in our modern societies towards the systems in power, and especially the financial system. This reason for companies to use Bitcoin is actually more of a commitment from the director than a real competitive advantage for the company itself. Even if this reason exists, it is still very marginal and very committed. This is not a coincidence if the Bitcoin appeared in the early 2009, just after the subprime crisis. Its primary goal was to bring a "human and independent" solution, created by ordinary citizens of the world, to a decadent system that does not give any control to its citizens. However, over the years the Bitcoin tended to lose its political aspect and it is no longer as much a currency of protest as it was at its beginning.

The Bitcoin is above all a revolutionary innovation and represents an incredible potential for companies and entrepreneurs.

Bitcoin and the blockchain: an innovation

The Bitcoin is essentially, like the Internet, a naive and decentralized network. It means, according to Stanislas Marion (Stanislas Marion, La force cache de Bitcoin), that the Bitcoin network does not care to know what it carries: *"Containers do not worry about whether they are transporting furniture, clothing, or pumpkins"*. The role of the network is to carry a message from a transmitter to a receiver and that it arrives right in time. In the case of Bitcoin, it *"is not interested in the value of the transaction or the purpose of the transaction"*. It just handles transferring a number of bitcoins from one Bitcoin address to another, just as the Internet carries data from one Internet Protocol (IP) address to another. (Stanislas Marion, La force cache de Bitcoin). This naive network is also decentralized and is not under any authority: *"It is possible for two participants to communicate directly without a trusted intermediary. Such architecture therefore allows any network node to create a new application that uses the network without being disturbed by a potential ban of the authority that would control the network. Without authority there is neither authorization to be obtained nor potential censorship."* (Stanislas Marion, La force cache de Bitcoin). It is the combination of these two properties (naivety and decentralization) that explains why Bitcoin allows all its users without any distinction to create and innovate *"instead of only a small number of people when the network is controlled by a central authority."*

Indeed, Bitcoin acting under the control of its users only allows reinventing and thinking about new financial systems without trusted intermediaries. Stanislas Marion illustrates this perfectly by saying that *"innovation in financial services is pushed to the edge of the network instead of being concentrated in the hands of a few. The creativity of the majority is free to express itself. Just like anyone could launch an email service, a social network or an internet search engine, on the Bitcoin anyone can launch insurance, notary service, contract arbitration service, a stock exchange, a financial instrument. "* (Stanislas Marion, La force cache de Bitcoin).

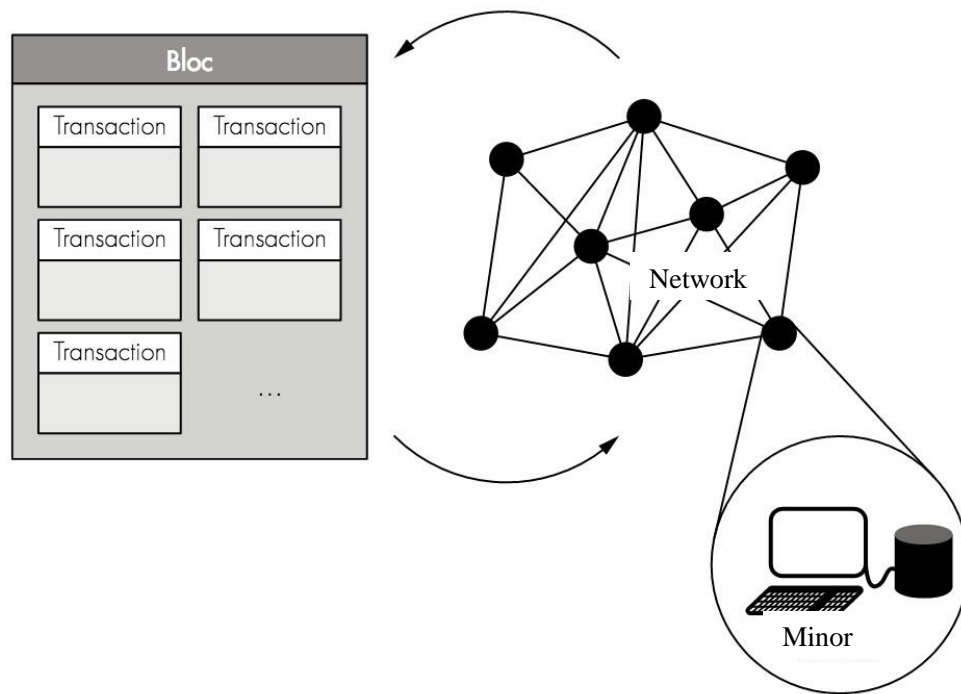
This freedom of use and innovation by removing the power of intermediaries and taking control of users back is only possible thanks to the technical innovation on which Bitcoin is based: Blockchain technology.

The Blockchain is the cryptographic algorithm on which rests the entire Bitcoin technology. It is actually a huge account book, which keeps track of all the Bitcoin transactions since its debut in 2009. It is thanks to these chains of blocks that the "miners" can later validate new blocks and integrate them into the chain of blocks (Rémi Sussan, *Demain les entreprises autonomes: au cœur du Bitcoin*).

François Meunier and Jean-Louis Chambon explain in their book, *Désordre dans les monnaies : L'impossible stabilité du système monétaire international*, that Blockchain is a complementary mechanism necessary to validate a Bitcoin transaction by verifying that the issuer owns the bitcoins that he wants to use but also avoiding the fraud that would consist of spending several times the same sum. It is therefore a system of mechanisms that check every transaction in order to validate it and then keep a copy of it in the same way as an account book.

Since the Bitcoin is of a decentralized nature, this checking is made by "the miners" who will each keep a complete copy of all transactions in bitcoins from the beginning. *"Transactions are broadcast as they are created to all nodes on the network that perform the first authentication. Every ten minutes or so, each node gathers the transactions received in one block and then tries to solve a sort of crypto-puzzle from this block. As soon as a miner solves the puzzle, he disseminates the solution to all the others with proof that the work has been done. The others can then check it very simply, always by a cryptographic algorithm. The minor who solved the puzzle receives a pay in bitcoins created for the occasion. "*

Thus each validated block is chained with the previous block, which means that each new block reconfirms all the previous ones. (François Meunier et Jean-Louis Chambon, *Désordre dans les monnaies : L'impossible stabilité du système monétaire international*).



It is therefore thanks to this authentication technique that the transactions are verified and their continuous monitoring is ensured, making it possible and reliable to use and issue a currency without a central bank but through a collaborative work among all members of the network. To summarize this complicated technical process, we invite our readers to read the iconographies in Appendix 2.

This block chain technique is revolutionary and its innovative potential should go beyond the financial sphere. Indeed, Bitcoin, but above all its chain technology represents a revolution for entrepreneurs as was the Internet 20 years ago. Bitcoin facilitate the digital transaction when the Internet facilitated digital communication. A new dimension of the Web and its richness is available to us.

Kariappa Bheemaiah and Mathieu Molines enumerate the areas that the Bitcoin could change radically:

The transfer: With the Bitcoin it will be possible to transfer instantly and without having to go through an intermediary, the network passing from centralized to decentralized. As we have explained before, this will greatly reduce bank charges, but also it will allow to trade with a share of the world population that today does not exist in the financial system. A "traditional" bank account will no longer be necessary to exchange and consume. This could eventually open up new markets in current development.

Micropayments: Currently, in our traditional systems micropayments are impossible since the fixed costs of transactions are higher than the sums. Thanks to the Bitcoin, this will be possible since the transaction has almost no cost. So we will be able to pay a few cents for a limited service. Kariappa Bheemaiah and Mathieu Molines, collaborator of the Harvard Business Review, explains the following case: *"One can imagine access to the reading of a paying article for a few cents. ChangeCoin (6) has also created an application named ChangeTip that allows you to pay with bitcoins, even if it's low (less than 5 eurocents), to access an article. These seemingly modest innovations could ultimately change the way we consume and remunerate content on the Internet, and thus offer a new economic model to the actors of the press on the internet who struggle to find a financial balance. "*

Connected objects: With Blockchain technology, it is now possible to create small programs linked to connected objects in order to give them simple commands of digital resources such as energy, bandwidth, computing power, storage space. A concrete example could be the combination of an API (programming interface) of the Blockchain and the electrical network, so one could pay in real time its electricity consumption or to control consumption by allocating a Bitcoin amount not exceed.

⁶ Platform created in 2013 and based in San Francisco, which allows users to send bitcoin money on social media.

Intelligent Contracts: Intelligent contracts are contracts that are executed automatically and therefore do not require third parties, such as a notable, to verify and validate the authenticity and value of the transaction. Bitcoin, thanks to its technology, allows the existence of such a contract of transfer of property in a safe and yet again decentralized way. Thus, two partners can be put in relation and carry out transaction exchanges between them in an automated way. It is the Blockchain who will ensure the good conduct of each party and guarantee the honesty of the transaction. Kariappa Bheemaiah and Mathieu Molines, collaborator of the Harvard Business Review explain: *"Let's take the example of two bettors who want to bet on the outcome of a game. Until now, they had to go through an intermediary (the bookkeeper). Thanks to the chain of blocks, this intermediary becomes useless because the system is able to automatically trigger the distribution of the gains automatically, once the result of the match is known. "*

Intelligent Property: This is a *"property that has access to the Blockchain and that can act "automatically and intelligently" based on the information published on the Blockchain."* This way it is possible to add "digital links" to real objects (digital resources). These links will be recorded in the Blockchain and can therefore be registered by an owner then exchanged, while also modifying the property on the chain. *"For example, imagine a car that is represented as a digital resource on the chain of blocks. This car is connected to the internet and can read the chain of blocks. It is therefore possible to monitor the status of this digital resource and its change of ownership, for example. "*

But the biggest innovation that Bitcoin represents, especially for entrepreneurs, could be the emergence of autonomous self-managed companies or DACs (Digital Autonomous Companies). DACs are companies whose management and operation is done by algorithms and not by the direct actions of men.

These would be collaborative ventures where each active user could participate in a democratic way in the management and operations of the group and be remunerated according to its participation in the project (Decentralized autonomous enterprises). Moreover, these firms would operate on algorithms and they would be governed by an incorruptible and inhuman integrity, since they are decentralized and open sourced (7). Thus each active user is free to participate democratically in the management and operations of the group and be remunerated according to his participation in the project. In addition, according to Laurent Leloup, this new collaborative business model is very inexpensive to set up, and thus would provide "*an alternative to other corporate structures for groups that, for example, may not have access to traditional fundraisers.*". Bitcoin would thus be the first DAC: "*The owners of bitcoins are the shareholders of a company that offers financial services and who pay employees, miners ...*".

But these robot companies will have to be strictly supervised because they also have dangerous potential, which is why some players in the Bitcoin economy, such as Stan Latimer president / collaborator of several companies in the Bitcoin economy, are beginning to think of a regulation of the DACs based on the 3 laws of the robotics of Isaac Asimov. So:

1. A DAC obeys its basic rules. This first law, integrity, is guaranteed by verifying the authenticity of the actions of a "node" by all its peers (as seen with bitcoin Blockchain). "*The illegal actions made by individual bots are simply blocked by the collective and the culprit is rejected. Any disobedience to the rules is futile,*" says Latimer.

2. A DAC cannot change its rules without the consent of the majority of its participants. About the first of the DACs, the Bitcoin, Latimer explains that "*the operating rules of the corporation can only be modified if the majority of the actors vote for a transformation of the software*".

⁷ Software or platform in which the source code is available to the general public. It is usually through a collaborative effort that programmers together improve the source code and share changes within the community where other members can contribute.

3. A DCA must protect its own existence as long as it does not contradict the first two laws. This is perhaps the most difficult thing. Open source policy and block chain technology are sufficient to avoid external attacks on the system by fraudulent "bots". But what happens if the developers themselves are coerced (for example, from a state or an agency like the NSA) or from corruption? To protect itself, the future DAC will have to become independent of its creators. Decentralized, not only in its functioning, but in its development (Demain les entreprises autonomes (2/2) : vers des transactions intègres?).

Given the readings reported throughout this document, it seems pertinent and plausible to assert that the new currencies, and more particularly the Bitcoin, support business creation and innovation. Thanks to its nature (decentralized, naive and open source), the Bitcoin allows easy access to a financial system parallel to the major institutions and which can eventually provide access to a financial system that does not involve any state control and very low cost. So millions of people could eventually trade and trade across the world once they have an internet connection. This decentralized and open source nature also makes it possible to virtually eliminate intermediaries and thus reduce the costs of huge transactions, greatly facilitating global trade. This would allow young entrepreneurs to reduce their bank charges and open up their markets to a global scale extremely quickly.

But it is above all its open source nature and technology that today represents the biggest potential of Bitcoin, and other crypto currencies. Thanks to its open source nature, the Bitcoin allows to share innovations and to adapt them, unlike the programming interfaces of banks and other multinationals, which are proprietary and hence inhibit innovation. With the Bitcoin, everyone can contribute to the improvement of technology and share its work so that the community can benefit from it. Bitcoin technology is capable of upsetting our lives even beyond the financial sphere. It could enable us to find alternatives to systems (notarial, banking, financial, etc.) which have been imposed on us for decades and which have repeatedly shown their limits. Would anything else be possible? It seems that yes, and especially for entrepreneurs whose existence is still intimately tied to banks (how to create his business without any investment?). New business models based on notions of collectivism and collaboration could be seen, allowing companies to walk alone without direct human intervention. The technological advances of our societies in the early 1990s had the promise of allowing man to free himself from work and to live in a world where only robots would work for us, where the replacement

of a man with a robot at work guaranteed a steady income, where we were finally supposed to free ourselves from work in order to enjoy a life of leisure, fulfilment and wisdom. But nothing happened this way, and the financial, banking and other systems did not stop growing and gaining power, never returning to the people. Would the Bitcoin prove that anything else is possible? Several elements seem to prove it, now we have to appropriate this technology and its innovative and creative potential.

Thus, in view of our problems and our academic research, two hypotheses seem to emerge:

H1: Bitcoin supports business creation and innovation

H2: Bitcoin does not support business creation and innovation

Research methodology

"Searching is not one thing and finding another, but gaining from research is research itself."

Saint Gregory of Nyssa / Homilies on Ecclesiastes

Research is a curiosity exercise. It calls us to question our achievements and to rethink our world. In my case, it has been several months since I embarked on this cyber-adventure in order to understand and decipher the potential of this new form of money through an entrepreneurial spectrum.

In order to be able to answer my hypotheses I will have to test them and then validate or invalidate them. In this section, I will present my research approach and the methodology that I will use to validate one of these two hypotheses.

Through this research process I try to study the innovative potential of the Bitcoin and its impact on entrepreneurship in the sense that it would promote it or not.

In view of my problem and the lack to this day of literature exposing the relationship between bitcoin and entrepreneurship, my approach is in fact exploratory since I am in an inductive process. I therefore seek thanks to the observation and the meeting of several "Bitcoin cyber-world" players to be able to propose an answer to my problem and a new track of reflection on the Bitcoin and its derivatives.

I will therefore have to decipher and analyze, through meetings and exchanges, the link that can exist between Bitcoin and the creation of a company and propose my interpretation.

Moreover, since not that many people today know the Bitcoin, its advantages and disadvantages, the representativeness of my results will not be essential. My aim here is to seek to identify and understand the major dimensions of a problem.

Thus, it will be necessary to use, throughout my research, a methodology and a qualitative approach.

The research design

The environment of my research depends on technology and entrepreneurship, so it seems obvious to me that the ground on which I will have to collect my data will be:

- Companies linked to Bitcoin
- Companies created thanks to Bitcoin
- Companies using the Bitcoin
- Internet forums of the Bitcoin "community"
- Business start-up organizations, business incubator type, start-up openspace

My contacts will mainly be entrepreneurs (in the process of setting up a business and / or having created their businesses) and have integrated the Bitcoin into their activities, be it in terms of money, technology or means of payment.

By interviewing these entrepreneurs, I will be able to understand the influence and the impact of the Bitcoin in the processes of creation of a company.

In order to collect my data, I will use the method of interviews.

These interviews can be physical or written (via exchanges of mails) depending on the availability of my interlocutors. The purpose of these interviews will be *"to collect data and identify some indicators that will help for the verification of assumptions. The aim is also to create hypotheses."* (Nicolas Lefèvre, L'entretien comme méthode de recherche).

This interview method will allow me to do:

- The analysis of the meaning that the actors will give to their practice and to the events they are confronted with: their systems of values, their normative benchmarks, their interpretations of conflict situations, etc.
- The analysis of a specific problem: its data, its stakes, the different parties involved, relations systems, etc.
- The reconstruction of a process of action, experience or event of the past.

These interviews will be conducted individually and on a semi-directive model.

The interview will therefore not be entirely open, nor entirely closed, which will allow me and my interlocutor more freedom. During the interviews and according to the answers of my interlocutors I can also enrich my original questionnaire and the number of my interlocutors (by discarding some, contact other).

In order to conduct my interviews, I will base myself on a guide and record the conversation while taking notes so as to capture the context and the social relationships that occurs during the interview and which have a significant impact on the content of the speaker's remarks.

As mentioned above, the sample of the qualitative research does not have to be representative. Thus the aim is to be able to collect relevant data with the problem and its environment. In order to avoid the saturation effect, I will have to select my correspondents in a meaningful way in order to make data collection as rewarding and less redundant as possible. We would therefore like to talk to Bitcoin entrepreneurs who have integrated Bitcoin into their business, whether in payment or currency, using its technology or offering Bitcoin services and products. In order to avoid a saturation effect, I would like to talk to entrepreneurs with a different use of Bitcoin.

In order to analyse my data I will use Miles & Huberman's thematic content analysis method.

This method is used to define the three-step analysis process consisting of:

- 1) Condensing data (reduction, coding)
- 2) Present the data
- 3) Formulate and verify conclusions.

This stage of coding is explained by Desgagné (1994) as a back-and-forth approach: "*the coding of certain elements of the discourse prompts the researcher to make a first attempt at organizing the data (to represent it as a certain way that can be a first schema) and then to return to the data itself to appreciate its relevance, to see how this representation confirm, modify or contradict itself. When going back to the data, the researcher resumes his codification and the repetitive process continues until a plausible and coherent organization, ensuring the intelligibility of the discourse, makes it possible to conclude that the various codified meanings are saturated.*"

In his presentation "Qualitative Methods in the Social Sciences: A Small Introduction to Qualitative Methods" Daniel K. Schneider proposes to follow the following steps in order to encode his collected data:

- Make a reduced photocopy of the texts if necessary
- Highlight / surround text elements that define a category
- If different categories are in the same place, change the underscore style
- Put comments and codes in the opposite margins

Once my information is encoded I will have to prioritize it in level and in meta code. Then I will have to define the concepts, their properties and relevant indicators in connection with my problem to finally be able to study the causal relations between the variables in order to better understand the phenomenon studied and to compare this analysis with the existing literature.

Interpretation and coding will therefore be the most important parts in my analysis, and are the stages on which I will have to spend the most time and attention.

Date	Objectives
February	Drafting of the maintenance guide
March	Research and contact of interlocutors
April	Conduct of interviews Readjustment of the interview guide and interlocutors
May	Coding of levels
June	Data analysis
July	Comparison with literature
August-September	Drafting and conclusion of the research Writing of the dissertation

Transcript and analysis of interviews

Thanks to my research and contacts, I have been able to talk with several active players in this community who have all created one or more business projects thanks to the Bitcoin and its technology. I therefore conducted semi-directive interviews with all our respondents in order to answer our problem and validate one of our hypotheses, namely:

H1: Bitcoin supports business creation and innovation

H2: Bitcoin does not support business creation and innovation

The Bitcoin community is a small community where the actors co-exist, know each other and collaborate with each other. I was pleasantly surprised to see that they are passionate and exciting people, ready to talk about their projects, activities but mostly Bitcoin and its technology in a more objective way than most articles we are used to read. Very quickly, I perceived the difference and the gap between the image the general public has of Bitcoin and the reality that these users and entrepreneurs told us. Many false ideas circulate, and few people actually use, know and understand this technology. Let me try through our interviews but also our academic readings to separate the true from the false and make an assessment of the entrepreneurial bitcoin activity and its innovations to finally propose our recommendations to the future entrepreneurs.

First, I would like to introduce our stakeholders and their activities.

Albin Cauderlier, a graduate in computer engineering and economics, started working in e-commerce interested in electronic, computer and economics and rapidly specialized in payment methods. After 2 years, he joined the BNP Paribas teams to work on innovation projects. It was at this point that he heard about the Bitcoin for the first time by meeting the creators of Paymium (Bitcoin / Euro exchange platform). He then began to take an interest in the subject, both on the technical and economic side, and realized with the development of Bitcoin its potential and the transformation of means of payments that it could generate.

He then tries to "attack" the Bitcoin model to find flaws but does not find any. So he begins to talk to people around him about it, persuaded that the Bitcoin will transform the payment and replace the debit card. This led him to be dismissed from the BNP. In 2011, he launched his own consulting business, E-mPrvement. Along with this, Albin created several companies and embarked on several projects such as calendart.org, an online intelligent calendar, e-lico.net geolocation application between friends, and Btcna.me which is still available. It is an alias system to simplify bitcoin address by creating an alias. This is his first project using Bitcoin but was not viable as it has no economic model. He then decided to complete this service and make it marketable. In 2015 he has created Mubiz. Mubiz is a service enabling to do e-commerce without the need for a bank account or an e-commerce platform. Currently, Albin continues his activity as consultant in Bitcoin and Blockchain technology but wants to slow down in order to develop and finalize Mubiz.

Emilien Dutang, a graduate of an engineering school, initially did research on the peer-to-peer domain and IAM. He then worked in finance before embarking on the Bitcoin adventure and entrepreneurship in 2011 when he first heard of the Bitcoin. Fascinated and passionate about this new technology and the idea of a currency without a central bank, he decided with one of his friends to create "MasterXchange" an online exchange platform of Bitcoin / Currencies. He was quickly approached by BNP Paribas thanks to the success of his activity and his expertise in order to collaborate with them. Today, Emilien is doing consulting and accompanies large companies (SNCF, Banque de France, etc.) on Blockchain projects. Emilien offers his consulting services thanks to the company he co-founded: Labo Blockchain.

Clément Francomme, also an engineer, began his career in several major international groups (Sagem Com, Thales TRS and Safran UK) where he acquired strong technical knowledge of system engineering. It is in 2013, following the Cyprus crisis that he heard for the first time of the Bitcoin. He then decided to study this currency and its technology in depth and quickly realized its interest.

After an unsuccessful attempt in 2009, Clément decides in 2014 to leave his post of IT manager to create his own company and create UtoCat to bring the Bitcoin technology into the hands of individuals so that they can benefit from it unitarily and thus improve their daily

life.

He therefore decided to create a B2B2C application allowing bars or restaurants to accept Bitcoin as a means of payment. In 2015, following the crises known to Bitcoin and causing a widespread loss of confidence, Clément decided to change the focus of his activities towards a purely B2B approach, when he realized that Bitcoin's interest was in his technology and its use as a protocol. Today UtoCat offers to its clients its experience and its understanding of their problems, as well as its expertise by offering them consulting services and support to the creation and implementation of Bitcoin and Blockchain projects. The application is also still available.

Pierre-Marie Padiou, an engineer, has worked for large groups (SAFRAN Morpho) and small structures (MFG Labs). With his experience he has acquired expertise in complex computer systems. He has co-designed the world's largest biometric system, deployed in India to do the census of the population. In addition, Jean-Pierre Padiou also has experience in finance after having made a one-year VIE (International Corporate Volunteer program) at SGCIB. It is in 2012 that he hears for the first time of the Bitcoin, fascinated by its technology ingeniously assembling already existing technologies. In 2014, Pierre-Marie Padiou founded ACINQ to develop products and services in the Bitcoin ecosystem, paying special attention to the issues of fund security and scalability.

Jean-Luc Schmitt, a teacher for 20 years, is not a bitcoin entrepreneur but an information distributor. He is also an amateur blogger and it is on an online forum that he hears about the Bitcoin for the first time in 2010. Seduced by the originality of the concept he decides to create bitcoin.fr, a website of information and news around Bitcoin aiming at informing as objectively as possible about what Bitcoin is, valuing the original initiatives and more importantly following the evolution of the experience. Bitcoin.fr is currently one of the French references in terms of Bitcoin information. It is thanks to Mr. Schmitt that we have been able to get in touch with our other respondents.

Bitcoin entrepreneurial activity

Starting a business in France is not easy. According to the World Bank's Doing Business (8) website, France ranks 27th among the countries where it is easiest to set up a business. Indeed, several of our respondents encountered difficulties related to the simple creation of the activity such as the use of the bitcoin in their activity.

The business creation process is time-consuming and has a direct impact on the activity, which could lead to a considerable delay in its launch, as Clément Francomme explains: *"Setting up a business in France was hard and it had nothing to do with the Bitcoin and its involvement in our business. There are lots of papers to fill, travel to do ... It's really unique to France and its tedious steps to create a small business. All this has shifted our plans and the launch of our activity."* Moreover, is added to this the difficulty of using the Bitcoin in a business plan.

Indeed, all of our respondents encountered difficulties either from public authorities or from banks. Pierre-Marie Padiou and Emilien Dutang have both found it difficult to open a professional bank account and obtain the support of a bank, which is essential in order to have a lasting professional and commercial activity: *"We had all the trouble in the world to open a bank account, but we finally succeeded. For our business of selling bitcoins by credit card, no banks and no French payment service providers did want to work with us, we had to turn toward the United Kingdom."* (Pierre-Marie Padiou).

"What is funny is that at the time, when we tried to open a professional account and do that kind of thing, we went to two banks but both of them refused to open a bank account because we had mentioned the name Bitcoin." (Emilien Dutang).

⁸ <http://francais.doingbusiness.org/data/exploreeconomies/france>

Albin Cauderlier chose to get around the problem in order to get support from the banks:

"To have a professional bank account and to be able to present my project to the bank correctly, I had to use the term Blockchain rather than bitcoin. "

This abandonment felt by all of our respondents also came from public organizations supposed to help start-up companies, as Clément Francomme explains: *"We launched our UtoCat merchant application without any help or support from a public body. We did not have any particular problems related to the bitcoin to launch our activity, the only problem we encountered is that the traditional support networks (Nord entreprendre, Euratechnologie, incubator of company ...) all rejected our requests for assistance because of our assimilated financial activities. So we could not get help like loans on honor. Our bank had no concern and let our business start (Le Crédit du Nord) unlike some of our colleagues who at the time saw their bank account getting closed: the house of the bitcoin for example."*

The case of taxation also arises very quickly, and here again our respondents encountered difficulties *"The question of VAT has been raised, namely whether to put the VAT on the whole bitcoin or on the cost for us to operate, as it is done on currencies or as the European community recommended to do for crypto currency. At the time (2011) there was nothing, no information, nobody in Europe had looked into it. So we decided to start a procedure, called tax rescrits. We had to ask the tax authorities how our situation should be handled, how should we do it? The administration has 3 months to reply and obviously they took 3 months to answer. Only 3 months in the world of an entrepreneur is very long ... We did not know if we had to start preparing the activity or not because if we had to count the VAT on all the bitcoin it was not worth it. Who wants to buy a bitcoin with 20% VAT on it? No one ! At the end of these 3 months, the answer was negative, but anyway it was too late, we had already left on another project, "Btc Oracle". "*

France is late behind in comparison with the rest of the world, and the current situation is still very vague, as Albin Cauderlier explains: *"The Banque de France announced that Bitcoin was not a currency, whereas the European Central Bank said it was. In France we cut the subject in 2: what can or cannot be done with the Bitcoin and the fiscal part. On the regulatory side absolutely nothing happened and there is still nothing today in*

France about the legislation Bitcoin. So by default one can do what one wants with. "
We invite our readers to visit the website noted below to learn about the legal and tax situation of the Bitcoin in each country (9).

The use of the Bitcoin in its activity is thus a brake for the launch of its activity and seems to require more efforts. The entrepreneur can often feel isolated and abandoned but the situation seems to get better thanks to the development of Bitcoin as Emilien Dutang explains: *"In France we still have a good ecosystem, public authorities are less and less refractory. I can give you the example of the Banque de France, with whom we work. The former director of the Banque de France was very hostile to the Bitcoin, he made media campaigns to criticize and warn against the Bitcoin, saying that it serves terrorism, money laundering, drugs ... The new director is much younger and focused on start-ups. He wants the Banque de France to renew its old-fashioned image by working precisely with start-ups and innovations such as the Blockchain. There is a tendency to accept, thoughts are changing. Today it is less risky for banks and causes less problem. At the time, the Banque de France made a recommendation to the banks telling them to avoid dealing with Bitcoin ... Now it's better, we have the "Blockchain" image which seduces more. People should say they do Blockchain activities if they want to launch a Bitcoin related project (laugh)! "*

Pierre-Marie Padiou was able to benefit from the help and support of public organizations to develop his project: *"We were helped by the CFE (Paris Chamber of Commerce IDF), Paris Région Entreprises then by the BPI, all of whom were very open to Bitcoin"*

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⁹<http://www.loc.gov/law/help/bitcoin-survey/index.php>

Choosing Bitcoin

But why choose to integrate Bitcoin into its business? We asked our respondents and all of them made the choice for several reasons. First of all, and as I said, it is because of passion for this technology: *"In general, the common point of all the people who go into the bitcoin and who have remained there are passionate people."* Clement Francomme.

One of the other most important reasons for choosing to integrate Bitcoin and its technology into its business is the perception of its potential as a means of payment like Albin Cauderlier explains: *"Thanks to my experience and knowledge of Bitcoin, e-commerce and especially the means of payments, I know all the problems that e-merchants meets: delays, no payment, guarantee, international exchanges ... It is for these points that e-merchants say today that online payment is not yet optimal and adjusted to their reality. The credit or debit card are not yet able to adapt to the Internet and to fully satisfy the expectations of e-merchants. Bitcoin, the fruit of the Internet, perfectly matches the e-seller needs and answers their problems: First, the payment is guaranteed in the microsecond and is recorded after one hour which allows e-sellers to have the guarantee after an hour that the payment has been made and that he can send the good or service by being 100% sure he will receive the payment in exchange. It also facilitates international trade, since it is a global currency. The payment can be made anywhere in the world and to anyone which is not today the case with the payment card. For example, 50% of people on the planet do not have access to a debit card or a bank account. On each of the points on which the card is inadequate, the Bitcoin is fully operational".*

The desire to use Bitcoin to improve the everyday lives of people is also one of the motivations, as for Clément Francomme: *"So I thought what could I do to take this technology into the hands of individuals and make them benefit from it unitarily and thus improving their daily life. Even if it improves it by only 0,01%. Improving everybody's life by 0,01% is a lot to me. Most entrepreneurs I've met want to improve drastically the daily lives of people but that's way too much! Aiming at 0.01% is more than enough! "*.

Finally, the last reason we were given was that Bitcoin had allowed them to set up projects that would be impossible for them to do otherwise. This is particularly the case for Etienne Dutang: *"This is where Bitcoin or the other cryptocurrencies become interesting and magical, since they allow us to make banking and financial trades without being a bank, without having to ask for regulation. It's finance for everyone! There are two people in a room who want to put up a financial project... well they can today. Before, for example, if you wanted to set up an investment fund, you needed a huge capital, lawyers, regulations and authorizations... Today, none of this is necessary: two friends in a room can say we want to raise a fund, send us your bitcoins and voila! It is a kind of democratisation, again of finance, because what is interesting is that in the early 1900/1800 the finance started in a similar way. They were people saying "Well, we're going to do obligations." This revolution is similar to the Uber one, and it illustrates why crypto currencies are a practical field for budding entrepreneurs, it allows everyone to make projects!"*. This is also the opinion of Jean-Luc Schmitt: *"I was first of all seduced by the originality of the concept. I saw in Bitcoin an experiment of economy totally unpublished: a true democratic currency, a currency of sharing such as the Argentine Créditos or French SELs, but without the problem of centralization. Bitcoin was an additional contribution to a certain idea of a free world - or a world of free, open source and collective intelligence. And then, in the absence of a central organ, everybody could take Bitcoin and take ownership of it without any accountability ... that's what I did."*

The development of Bitcoin activities

Bitcoin entrepreneurs are passionate about this technology and its benefits and have an entrepreneurial profile. All of them, except for Mr Schmitt, who did not have any economic activity, expressed very early their desire to set up their company, as Pierre-Marie Padiou explains: *"For a long time now, I wanted to create my own company, when Bitcoin appeared I could not let the opportunity pass. I did not have a specific project, but I knew there would be an entire ecosystem to build and that many opportunities would arise."*

This passion, the similarity of their career paths and the desire to improve the world of entrepreneurs, creates a dynamic network of mutual assistance where each user can intervene in the debate and propose ideas to develop Bitcoin and its technology. Thus making it more efficient and interesting to use as Clement Francomme explains to us: *"I consider any initiative that would improve the code of a Blockchain as extremely good because if this evolution really brings an improvement, it will be systematically taken up by all Blockchains of the whole world and the source code is public, it is open source. There are no real restrictions to integrate it so if it makes sense it will be. This improves the market in general. When an actor develops an innovation that improves the Blockchain in question this benefits all Blockchain or at least it opens the debate whether this innovation is good or not, which is always positive. Today we have the feeling that the ideological and technical debates on bitcoin are very slow, we must take a step back and realize that this technology is only 7 years old, evolutions are very fast. We hardly have the time to debate on this, that a new innovation is coming. Unlike a government that does not really have the time to do very much in 5 years, Bitcoin is more active, it's a very fast system and moving forward very quickly and in a more or less collaborative way. "*

He adds: *"From the moment we use Bitcoin, Ethereum or any crypto currency, it is a market development, that is to say. The more one uses it for a really useful purpose, the greater the totality of the Blockchain ecosystems will develop at the same time and in a global way. For example, if China decides that Bitcoin is a useful protocol for doing something, the whole world will benefit. If a fiscal paradise island like Panama decides to use it for any purpose it will radiate into the world right away."*

It is a very powerful technology, as soon as a real evolution, a true use is done then it radiates everywhere. "

The crisis of MtGox had a cruel impact on Bitcoin and its development as Clément Francomme explains: *"The launch of our activities was followed by a period of violent crash of the Bitcoin, following the collapse of the Mtgox platform where 10% of the world's Bitcoins evaporated. This has made the Bitcoin go up to almost 1000 euros but it also made Bitcoin took a penalty of 2 or 3 years caused by the widespread loss of trust that it has induced. It was a terrible event for Bitcoin because 2 or 3 years of struggle is a lot for such a young innovation. Today I think that if it had not happened we could have continued UtoCat payment."* As a result of this event, Bitcoin users collaboratively decided to secure the system, thanks to the TTCC and TTSS standards, thus circumventing one of the biggest criticisms of Bitcoin. Albin Cauderlier explains how they use these collective standards to secure their business: *"There is a consortium created between English and American actors who realized that their knowledge and security capacities had to be shared to build something solid, especially because of the strong risks of spread. So there are groups of actors who create public standard of good practice. I base myself on these standards to secure my business and thus being conform to standard"*

Nonetheless, much remains to be done for the Bitcoin to be adopted and therefore developed: *"Today we can compare the situation to 1991 when the Internet was just beginning to open itself to the general public and in 10 years it will be drastically different. "* Clément Francomme.

There is, however, a certain tendency. Indeed, it seems that today the development of activities is more oriented toward a B2B market and a consulting activity rather than purely B2C use. I have therefore tried to understand the reasons for this trend among our respondents. Clément Francomme, who moved from a B2C activity to a B2B business, explains his reason: *"In October 2015, we decided with my partner to change direction and move toward a pure B2B activity and no longer B2C because the general public does not care about Bitcoin. The advantages given by the use of an independent, international currency without borders, which cannot be pre-empted by the government or by banks or*

central banks: people do not really care about it! "

For him and our respondents, it is not its use as money or means of payment that is interesting but rather the use that can be made of its technology, the Blockchain: *"I think that in the next 3 years Bitcoin will be a protocol and nothing else, we will only use its Blockchain technology. I think money is over, nothing will happen for at least 2/3 years. "He adds:" From my point of view all the B2C, Bitcoin or protocol-based solutions have no future in the next 2/3 years because it is not a real differentiator to have Blockchain as part of a B2C usage. It does not concern individuals and privacy issues enough for such activities. On the other hand, Bitcoin can be useful for some business uses, especially in the case of costly transactions, whether it is financial transactions, such as a transfer abroad, or other operations. For example the electronic signature could be replaced by Bitcoin which is fundamental, it could also replace notarial deeds, management of cadastre, the validation of a contract without peer and therefore no need for lawyer, it will be a lawyer programmer! "*

There is also a real interest for companies to understand and integrate this technology. Moreover, demands and projects are flourishing as for Etienne Dutang or Albin Cauderlier: *"It's been a year and a half that we are working with them (BNP Paribas), we also have a consultant at the Banque de France and we will soon work with the SNCF. What we are doing today is advice on Blockchain and Blockchain projects. We became an expert on Bitcoin and Blockchain. Today we face large companies to make proof of concept, later transformed into projects. For example, we are working with BNP Paribas on the "Smart Angel" project (the equity-crowdfunding SmartAngels website based on the Blockchain technology,). Today we mainly do consulting. Bitcoin was really good to start; it is finance open to everyone. Today if you look around, there are lots of fundraising and projects, it is full of things, it's a new universe!"* Etienne Dutang. Albin Cauderlier adds: *"Where they took me out on one side they picked me up from the other (BNP Paribas) to do some consulting, so I kept working with them which allowed me to have my first missions and launch my consulting business. Since, I have done training, prototypes, I have set up services that have worked or not ... "*

Their main customers are banks and insurances, and demand seems to explode, as Clément Francomme tells us: *"We are leasing an infrastructure that allows banks and insurance to focus on the added value of this technology as part of their business and they do not have to worry about what's under the hood. For the moment we offer tailored solution but in the future we would like to propose to our client solution "keys in the hand" ". Today we are saturated with demand and cannot treat anything, we are overwhelmed and to the maximum of our capacities. We have difficulty recruiting people because we are not very good at HR but beyond that people do not want to go into a startup and prefer to go to big SAS. People are excited to come to work as we deal with subjects that were kind of never seen before, and are very interested and curious about this subject. (...) There is a big shift that is happening. There are banks that are still in a state of technological discovery and others that are already in the process of making solutions, with protocols that are running and that are working. We accompany them in defining the correct protocols and we have not identified any major technical difficulties that would prevent these projects from progressing. "*

So companies seem to have understood the interest they might have in integrating this technology but are still reluctant to use the term Bitcoin as our respondents explained. Why? But above all, why the world population has not yet adopted a currency which was originally created and thought for it by suppressing intermediaries, giving them total and personal sovereignty of the currency in default of the government and finally, by making of it a reserve value.

The use of Bitcoin and its limits

I have tried to understand what slowed down the adoption of the Bitcoin both by the general public and businesses. Several reasons very quickly emerged from our interviews.

Firstly, it is important to understand that the situation in France is peculiar. Indeed, according to our respondents and also French press articles, there was since the beginning of the Bitcoin a very strong rejection and very strong criticism toward it. It is today, according to all our respondents, the main cause that explains the lateness from France and especially the adoption by the general public. Albin Cauderlier and Etienne Dutang illustrate this: *"Bitcoin has a hostile image while the Blockchain is showing one thing: 'finance is good.' In France, it is true that the Bitcoin was more criticized than elsewhere. It comes from the culture that we have in France, which is a little more anti-capitalist. We are a country much more socialist than the others and many feels like 'Finance is bad, the Bitcoin is still finance, the rich against the poor ... ' There is still an anti-financial culture in France which makes financial innovations seen as innovations of evil, which I think is one of the reasons why Bitcoin is not well perceived, while it is welcomed in countries more open to finance."* Etienne Dutang *"The Bitcoin image was smeared by the banks and all the press articles of the first 6 months were negative on the subject. This is a monstrous mistake that other countries have not made, exactly like years ago, when there was an anti-communication campaign targeting the Internet in France while the other countries remained neutral. When we read international articles (Chinese, American, Swiss or Australian) we have a communication that is 1/4 negative and 3/4 positive, the negative part being about the youngness of the Bitcoin and that there are still improvement to do ... It's not aggressive at all! Whereas in France, it's going to be the contrary: we'll say on an entire article, either in the Figaro, the the Echoes etc, that the Bitcoin is noxious, that it is done for money laundering, that it is used to finance Daech, that the big drug networks use it and that Bitcoin is the scourge on Earth."* Albin Cauderlier

Many false ideas are circulating on the Bitcoin and few are true and well founded, as Pierre-Marie Padiou and Clément Francomme explain: *"Bitcoin's image is rather negative, due to a history of scams and bankruptcies of all kinds, the popularization of ransomwares and the shortcut made by the media combining bitcoin, drugs, money laundering and the financing of terrorism. As any financial technology, illicit or criminal uses will inevitably come into the mix. Those must be fought well (it works: closure of The Silk Road). Some fears (such as money laundering and the financing of terrorism) are simply unfounded, as shown by various reports of governmental and European services not adequately reported by the media. This image is beginning to evolve, but it will take time."* Pierre-Marie Padiou.

"Bitcoin has a very delicate image: drugs, money laundering, terrorism... The death of the Bitcoin has been announced many times, there is even a register of the Bitcoin's deaths. At present, there have been 101 announcements of the death of Bitcoin and it still happens several times a year, a month etc. All I can say is that these people will perpetually be wrong! All this for me is joking until I am proven wrong. In Bitcoin it is always necessary to ask for proofs, and technical proofs and not only oral. Is bitcoin dead? Evidence ! Is there money laundering? Evidence ! Has the Bitcoin financed Al Quaida? There's never been any evidence of that! And in the worst case where there was a proof it was ridiculous sums, which are of no use. Terrorists fear the Bitcoin like anyone else in the world because it is volatile! If it was not volatile as it should be one day maybe they would use it at that time; But for now they have the same problems as everyone: volatility, the fact that it is not used everywhere because governments do not agree with it, the lack of a global exchange platform, the impossibility of transferring large quantities of Bitcoin to the other end of the planet by retransforming them on the spot without having any banking or fiscal control". Clement Francomme

It seems clear that there has been a campaign of complete disinformation among the general public, mainly from banks, central banks and governments, since Bitcoin, in addition to having an economic impact, also has a political impact: *“Banks would have to cut off from the central banks which is a bit annoying at a political level. That is where we get into the political aspects, because the currencies are managed by the central banks, there is also the sovereignty problem of the currency, the governments would also lose a form of sovereignty.”*

Clement Francomme

This bad image has a direct impact on entrepreneurs' activity and development. On one hand they fail to reach the general public to get their technology adopted and on the other hand they do not find technical staff like directors or investors. Albin Cauderlier explains: *"It's a pity (the bad image of the Bitcoin) because it's a mistake that cost us developers and qualified employees, that are afraid of that, or who went abroad to work on it with a free mind. And no developer means no entrepreneur, because guys like me who want to use projects, cannot as there are no developers who want to work with us, and if there are no developers, investors are not going to want to look at it. All this because the first thing we did toward the general public was anti-publicity. And if there is no investor, there are no customers! Abroad the situation is completely different and there are many investors! It's frustrating because everyone around us has advanced and we are always a little late."* *"The investors explained to me that they could not follow us because they were themselves linked to a bank and did not want to risk the relationship. We had 3 investors, 2 simply told me that they could not work with us, and the last one who was more honest with me said very sincerely that the project was very interesting etc. but that they could not follow up in order to not put the banks on their backs"*. This situation is very unfortunate but as I have highlighted before the situation is changing step by step. Both banks and governments would have much to gain, according to our respondents who bitterly regret the delay.

"I think that governments would have much to gain by the transparency that Bitcoin brings to their functions, since on Bitcoin every transaction are traced. I think it brings transparency rather than money laundering. As bitcoins operations are irreversible and histori ad vitam aeternam I would tend to say that it is rather good for the traceability of operations, especially in countries that are subjected to strong corruptions, for example." Clement

Francomme.

“The Bitcoin is lacking a user interface, it needs something simple, practical, easy to apprehend for users, simple practices, and a very high level of security because we know that if you lose your access keys, it is finished, one cannot lose them or it is immediately dramatic. I think the general public is not willing to have this strong management and prefer to rely on the current banking infrastructure and be able to deal with someone in front of you in case of problems. For instance, I would be able to shout on my banker if I have been stolen 200€ on my account following a false manipulation or a robbery of debit card. This will not necessarily mean that I will recover this money but I can at least shout at someone and that's what I like, while facing my bitcoin wallet I will not be able to do the same. All this means that the adoption of the currency will certainly take a long time” (...) “Despite the many efforts of platforms like Wallets, payment solutions etc. Bitcoin remains always quite difficult to grasp for a novice, it's hard to use and understand. There is always a bug. Myself, I use Blockchain.info as wallet and I like it because it's a bit technical, I can manage my settings etc but it does not work all the time, there are always delays, latencies. The use is not yet optimal, just like Mastercard or Visa can be.” Clement Francomme

*“Hard to say because we have not yet got enough power. Today we know we will be able to increase power *16, but for now it represents only 1% of payments per card which is too low. We are settled on a niche not well known by the general public and if tomorrow the general public had to massively adopt it we would not have the power to manage this increase of users”* Albin Cauderlier

“Bitcoin's repeated scandals and bad brand image were a source of concern at the beginning. Now we are wondering more about Bitcoin's ability to achieve mass adoption. My expectation is simple: that Bitcoin changes the world as the Internet did, by imposing itself as a standard medium for value exchanges.” Pierre-Marie Padiou

"I think resistance to change will be very strong and that's what will slow down the adoption because it's a new gear, when we put our finger in it we do not know what we're waiting for because it inevitably impacts politics, geopolitics, finance, economics, change management, difficult apprehension ... Moreover, as it is governed by a zero fiction, it means that the limiting point will never be the company that tries to use it, but the users. They will always be the one slowing down the adoption. You can try to integrate this technology as fast you can, but what is made of it behind will always slow the whole process." Clément Francomme

Solutions to its limits

Several solutions could facilitate the adoption of Bitcoin. First of all, concerning the brand image, the trend unanimously adopted by all of our respondents is the rebranding of Bitcoin in Blockchain. And also to insist with customers or anyone interested about benefits of using Bitcoin: *"Bitcoin as a currency has a bad brand image which is a shame because it is false and it has real properties and can do real things. It suffers from a bad brand image so today we rebrand in Blockchain ... It's great and much better, although for me it makes no sense because Blockchain and Bitcoin are very close. But if it helps to change the debate and move things forward, I cannot complain. In my opinion, if Blockchain pleases everyone, great! Let's keep Blockchain! But remember that 95% of computing power is Bitcoin and nothing else, but good, why not. "* Clement Francomme

Many articles published on it are edifying, one speaks of the currency Bitcoin as a currency of delinquency and the other proclaim Blockchain as the miracle solution. The banks accept and create many projects related to Blockchain technology but refuse to give support to the contractor using the word Bitcoin. Although very similar (the Blockchain technology comes from the Bitcoin), it makes it much easier for the development of an activity to choose this denomination:

"I do not think the use of Bitcoin in its activity is a brake, but it will be more difficult today to raise funds with it than with Blockchain. Fashion today is the Blockchain. It sells, and that makes investors want to invest. ". Etienne Dutang

"To circumvent this bad image, I highlight the interests that Bitcoin and Blockchain have: global, instant, secure, affordable, without an administrative approach (no bank account or administrative registration), pseudonym, without registration of personal data and supported on many medium." Albin Cauderlier

"Yes, it is true, the ECB is not very favorable and the banks either but I do not agree with that and I think banks have everything to gain by using bitcoin, including currency, (...) The banks are only pipes, the bitcoin pipe is just one more pipe or could even replace the other pipes. They should therefore be more inclined to adopt it on the contrary. (...) There was the banking lobby that did its job of anti-publicity. I think it was a mistake because they could have had a card to play and they preferred to do something simple and stupid by leading an anti-publicity campaign." Albin Cauderlier

There are also several other reasons for this long adoption time, namely the complexity to use this technology, its virtual appearance, the power of the system and finally the resistance to the change of the users themselves: *"Time, time ... people are not competent enough now. The problem today is that Bitcoin caters to a big geek audience and the tools are not mature enough for the average people."* Etienne Dutang

As for the complexity of use and the resistance to change, our respondents do not yet have a real solution, since the two according to them should be simply settled over time: *"I think that Bitcoin today, is too complicated but potential growth is phenomenal over the long term, over 10, 20 years because those who will be comfortable with Bitcoin is the generation of tomorrow. We will be more and more geeky and I think that mentalities will change: today it seems completely useless to send a letter rather than an email! It may be the same with cash one day"* Emilien Dutang

"I do not think it will be done in a few months but rather in a few years because in any case there is a culture of internal change. Your IT developers cannot easily follow all these new concepts, there is a time of adaptation of your teams. Even we who are experts in these technologies are struggling to measure the real impact both in terms of performance and earnings. We have calculated 90 to 99% savings in some transactions, but we have no idea what the real impacts are on the systems next door, because they probably will benefit from it, but it's difficult to measure. As soon as you have found a use there is a high risk of spreading to all the others which is what is very exciting, and that is why computer scientists adore the projects on which we work because it is very refreshing from a technical point of view and there are plenty of things to do" Clement Francomme.

The question of the power of the Bitcoin system is to this day the greatest concern of our respondents. Two solutions are opposed and have created a vigorous debate in the Bitcoin community. It is the increase or not of the size of blocks. Etienne Dutang explains the problem: *"Every 10 minutes there is a generated block. On this block, there are 3 transactions per seconds that are created. The block is megabyte, there are people who say that we should leave this size at 1 megabyte because if we increase its size, we will not be able to access and recover the blocks because our computer or hardware has not enough power."* Some also do not wish to touch and modify the work created by Satoshi Nakamoto. For our respondents, the increase of block in the chain is possible thanks to the laws of Moore (10) but above all absolutely necessary to the development of Bitcoin and its adoption. Clement Francomme and Etienne Dutang explain to us: *"The management rules of this software and its life cycle are governed by the laws of Moore. Why? Because part of this software has a technological infrastructure, namely the miners and the computer equipment that they use (servers, computers etc ...). This means that what is ensuring the security of Bitcoin is based on physical hardware. This physical material is therefore governed by the laws of Moore. These laws give a cost to the Bitcoin system, the storage cost but also the bandwidth, the computing power that defends the network ... all these elements will necessarily play in favour of Bitcoin because it is easy to find at one point a distinctive technological advantage of Bitcoin compared to other technologies or to identify a future technological advantage that will be reachable under conditions that are related to the law of Moore. For example, "I*

cannot use Bitcoin today because 7 transactions per second in average is too small for me, but if it reached 700 transactions per second it would be good, or no I cannot use Bitcoin today because it costs 5 cents per transaction but if it was 2 cents it would be good. All these thresholds are localizable and what is certain is that one day we will reach them because the law of Moore makes the computer and technical equipment less and less expensive, with equal calculation power. Therefore, there is necessarily a competition on the hardware which makes that today it is the computing power that increases but it is possible that in some time it is the costs of use of the material themselves that will decrease making this basic technology reach low costs.” Clement Francomme. *"Our technology is constantly evolving; our computers now are ten times more efficient than computers five years ago. In the same way, I think it is necessary to increase the size of the blocks because if tomorrow the number of user increases, there will be more transactions so we must increase the block size to be able to support this increase. Today there is a heated debate in a very concentrated community, only few people in the population practice Bitcoin and the rest do not master it. Debates are occurring right now to know whether or not to increase the size of the Bitcoin. One can compare this with the Communists debate between Trotskyists and Stalinists. There are two schools and a big debate. Me I really want to increase the size to make the Bitcoin more mainstream, make everyone uses Bitcoin, I think today we are partly limited because of that.”* Etienne Dutang.

A final factor could also favor and accelerate the adoption of the Bitcoin by the general public according to all of our respondents. This factor is a totally external and on which they have no impact: the economic cycles and monetary crises. Indeed, as we explained in our research, Bitcoin was born in response to the financial crisis of 2008 that left deep stigma on our societies and economies and that are still felt.

10 Moore's laws are empirical laws based on a simple observation: In 1965, American engineer Gordon Earle Moore observed that the progress of electronic chips is regular and homogeneous: at constant price, the "complexity of 'entry-level' semiconductors" has doubled each year for six years. Moore's laws therefore consider that over time the power of computers and computer tools increase and their prices decrease.

"In every country with real monetary difficulties, Bitcoin is potentially a solution and a great refuge. It is for this reason that each time a country has monetary problems, the value of the Bitcoin increases strongly because there is both an anticipation of the economic actors of the other countries and also an anticipation of the economic actors of the said country in crisis which are running toward the Bitcoin as an exit gate. Why? Because in an economic or monetary crisis in a country there is very often a capital control that is put in place, which means that you cannot do what you want with your money. The capital can no longer leave the country as it did in Greece. And Greece is Europe! The Bitcoin does not have any sovereignty, it does what one wants, there is no control of capital, and individuals are free to do what they want with their capital. I think that what could allow the acceleration of the Bitcoin's adoption as a currency are financial crises, and the more there will be the better it will be for the Bitcoin. The best would be small crises and not big ones like 2008, because it would be too violent, we would not have time to react, everything would collapse and we would not have time, for example, to convert all the traders and business toward Bitcoin, and it would be a drama. But unlike before 2008 we would have a solution when we had none at that time and had to restart the current system. We would no longer be obliged and would have the opportunity to think differently. Currently Bitcoin may not yet be ready to be used as a substitute currency, but it is an exit door that is sufficient for individuals, and that, is what is interesting. "

Finally it is thanks to its intrinsic behavior that Bitcoin could also become a currency of confidence and thus be more easily adopted as Clément Francomme explains: *"Bitcoin thanks to its intrinsic behavior and its self-regulation will make itself attractive because it devalues intrinsically. Today we are on a devaluation of 8% per year of the intrinsic value of Bitcoin: I have a Bitcoin, how much will it be worth in one year? It will be worth 8% less as there was 8% more Bitcoin create. There is an intrinsic devaluation. 8% is both a lot and not much. The best currencies are at 2/3% and the worst currencies are at more than 8% (Russia 80%, Argentina 30% ...). This summer, thanks to the reduction of the remuneration of miners which will occur for the third time in its history, we will arrive on a devaluation of 4% which is very close to the 2/3% of so-called reliable currencies and by the end of this year or next year it will reach 3%. The Bitcoin currency will thus become one of the most interesting currencies in terms of intrinsic devaluation. It's a bit technical, it's not saying much, but what's important*

is its value in comparison to other currencies and its fluctuation. But I still think that this aspect of diminishing internal devaluation will make the currency more attractive and possibly a little less risky economically speaking. If it becomes more attractive, its value may increase slightly. If this upward trend persists over the long term, which is the best behavior for the Bitcoin, then it could take the role that awaits it, a role of global currency. Its value should therefore be increased steadily and regularly in order to compensate for the devaluation and make it become a currency of confidence. By becoming currency of confidence, this would attract more users and owners. A threshold would then be reached, like social networks: as soon as 10% of the world population uses it, the 90% will adopt it by propagation effect. The most complicated is therefore to reach this critical threshold of 10%, which would represent 700 million users. Today we are at about 7 million users, we have not yet reached the threshold but 7 million users is still something! "

All these internal and external factors could therefore facilitate the adoption of the Bitcoin by the general public but these are only assumptions and no one is able to know what will happen. The only thing Bitcoin entrepreneurs can do to this day and at their level is not, as we said above, to focus on adoption by the general public but to go through companies like Clément Francomme says: *"For me the safest, in addition to all these economic calculations, is to know whether companies will use the Bitcoin or rather its technology as a protocol. "* *"What's fun and interesting in my opinion is that the use of Blockchain technology in general will develop the Bitcoin currency market without people even knowing it and they will be familiar with the technology that generates Bitcoin, it will become in the collective spirit less dangerous. It is a matter of adoption and change. "*

The future of Bitcoin

It is difficult today to foresee the future of an ecosystem that is still developing and which remains extremely volatile due to its zero friction and its rapid spread. However, all of our respondents are quite positive and have a good faith in the transformation the Bitcoin can induce into our societies and our payment habits: *"Bitcoin has a future in both its facets: as currency and as a payment system. As currency, it will without a doubt be led to play the role of reserve currency, complementing gold. As a payment*

system, it is promised a bright future for online payment on the Internet or Machine to Machine, providing solution to scalability problems (11).” Pierre-Marie Padiou

However, everything is not yet perfect, and the question of bashing is still very worrying for our entrepreneurs: *"The situation does not change too much at the moment, it must come from users and banks. A positive communication to open the minds is necessary to properly launch Bitcoin."* Albin Cauderlier *"Of course today we are not there yet (the adoption of Bitcoin as a currency and technology). It's a bit like doing a business on Facebook at the time when there were only 10,000 users ..."* Etienne Dutang.

There are still several problems related to the young age of this technology and its commercialization: lack of customers, lack of awareness, lack of investors and the small size of the market.

"It is also important to know that when you make a business related to Bitcoin there is still a defect to know. Your activity will be addressed to the Bitcoin community which is smaller than the "world" community. It is a niche market therefore necessarily more limited, and more difficult to access.

Today it is still complicated to do a Bitcoin business especially as most of the niches are already taken. In 2017, I think it is not necessarily the right approach. It is a very good idea to start businesses when a sector is new and there are plenty of niche opportunities to take. But the problem is that the exchanges are saturated, the payment services are numerous... Unless you can find something radically new, you are still in a market that comes to saturation. It will probably grow, but for the moment, it is more the Blockchain that is concerned by growth. So for now, in 2017 it is more complicated to start a 100% Bitcoin project. It would be more judicious to have a more global project in which one can say that on certain aspects the Bitcoin will be used. »Etienne Dutang

¹¹ The ability of a system, or its components, to be used on platforms of much smaller or much larger sizes.

Bitcoin's integration to activity

We can therefore ask ourselves whether today there is a real interest for an entrepreneur to integrate Bitcoin as technology in his project and / or as a means of payment.

When considering it as a mean of payment, it is very clear, as our respondents have explained that profit and interest should not be neglected in terms of cost, especially for e-sellers: *"I advise anyone who sells online to accept payments in Bitcoins, not in the hope of significantly increasing sales - customers who own and spend bitcoins are rare – but because Bitcoin has great potential. In addition, the advantages for traders are important:*

- *Accepting payments in bitcoins costs nothing*
- *Commission fees are low (currently about 5 cents per transaction)*
- *No cancellation of payment possible (no chargeback)" Jean-Luc Schmitt.*

Bitcoin also facilitates transactions and internationalization as Etienne Dutang explains:

"I think so. For instance, if you want to send 30 000 euros to someone today, it will be very complicated. Your bank will put you on ceilings, you will have to fill in an authorization to the bank, the financial and tax authorities will fall on you by asking where this money comes from ... With Bitcoin, from anywhere I can send the sum that I want to anyone in the world with almost no transaction stroke. Yes it makes transactions very easy! "

To this is added a marketing interest:

"I think that for a website, accepting Bitcoin as a mean of payment can prove that the company has a strong capacity for innovation and is comfortable with some form of risk. See it as something very interesting, it proves open-mindedness: it is communication! At the moment, it does not generate real economic cuts in costs because nobody pays in Bitcoin but it is advertisement! That's how we sold UtoCat at the beginning." Clement Francomme

"It is very easy to accept Bitcoin when it comes to sell products on the internet, and this may possibly have a marketing interest so it would be a shame to not enjoy it. For companies that make cross-border payments on a regular basis, the use of Bitcoin deserves consideration in order to reduce costs. However, we must keep in mind that Bitcoin is very young and the ecosystem is still developing." Jean-Marie Padiou

Finally, Bitcoin and especially the Blockchain allows to convey a very innovative image and allows to position and differentiate strongly its project from the others: *"Yes, totally because it gives immediately to its business an international side, open and disconnect from banks ... It makes sense to use the Bitcoin in his business plan, I would even say the opposite would be surprising. When stating on a business model that you will make payment by card using the euro, I do not think that this is open-minded and risk-taking. It only says that you are doing a very cautious business model, you are not going to take any risks. What we try to highlight when we present a new project is rather: "You will see we are going to change the world and it will be a success because we will transform everything! ". I think the more we present a innovative and optimistic project in the long term by explaining and proving that we will change everything, the more interesting. We seem more credible because even if we do half of what the we say, it is still good and we have already advanced a lot. So for me whether it is the use of Bitcoin, Ethereum or other crypto currencies, it seems to be the thing to work on."* Albin Cauderlier

However, this is not yet the miracle situation, and its use must be justified and viable, as Clément Francomme reminds us: *"Use the bitcoin as a currency, yes, why not. But as a technology, it should be kept in mind that expert Bitcoin profiles on technology are very rare. There really has to be a technological differentiator in its use because otherwise it is very expensive for not much, which has no interest excepting for the marketing differentiator. Most companies that contacted us to find out if Bitcoin would be relevant in their activities, I would decline their offer to work with the Blockchain because they had hundred things to do before meeting with me. This could possibly bring them a small gain on some particular things, but the real interest for them is rather to know: "Who are my clients? What are their needs? What can I offer and sell? ". Bitcoin may help them on some*

fundamental aspects but later, and especially Bitcoin is not entirely free, it has a cost. They must ask themselves if they are willing to pay between 3 and 5 euro cents per operation when writing any activity in the Blockchain. There are certain projects, for example a loyalty card, where you cannot pay 3 / 4cent per write because it is very expensive and much more than the current system. This is of no use at all. So projects need to be based on transactions that already have a high technological cost. In general, these high technology costs are not present in start-ups but in large groups. I have the impression that apart from marketing differentiation there are quite a few projects that do not need to use Blockchain. Above all, it is always good to know what Bitcoin is and how it is used but it must be understood by everyone that it does not serve everything and not just anyhow."

Conclusion

In view of our transcription, several trends emerge. I will now confront those with the one highlighted in our academic readings.

Before any analyzes, I would like to specify a point on academic research. Indeed, it has been relatively complicated and laborious to find academic research on the subject and even articles dealing with the subject objectively. It was thanks to our respondents that I was able to understand that the Bitcoin really suffered from a noxious image created very often by banking organizations and central banks and then conveyed by the media. This anti-communication campaign has played a very unfavorable role in the development of the French Bitcoin ecosystem. I would like to engage our readers in trying to surpass these preconceptions which are mostly erroneous and which prevent to perceive the important potential of Bitcoin and its technology. I believe that there will always be some form of drift in the use of a financial tool and we must fight this without closing the door to one or several technologies that could eventually transform our habits of consumption and payments in depth.

In spite of this cumbersome image, Bitcoin and especially Blockchain technology is growing, is more and more accepted, and is increasing the curiosity of individuals but especially businesses, as our respondents explained. Today, they work mainly with several

major global groups to educate companies on the possibilities offered by Bitcoin and its Blockchain technology, helping them to create and implement innovation projects. This is mainly a consulting activity in order to be able to get the Bitcoin protocol adopted by the companies and finally to break the prejudices. *"I did training, prototypes, I set up services that worked or not."* Albin Cauderlier

"Since the end of 2015, we are leasing an infrastructure that allows banks and insurance companies to focus on the added value of this technology as part of our business so that they do not have to worry about what is "under the hood". We have tailor-made approach for the moment and we would like to shift in 1 or 2 years on solutions "keys in hand"'"

Clement Francomme

Many companies also increasingly accept Bitcoin as a means of payment. This is the case, for example, with Dell, which allows its customers to pay for their purchases of equipment in Bitcoin but also for Showroom-Privé and Xbox Live. But why choose to integrate Bitcoin into its business (either as a payment method or as a technology and protocol)? Our readings allowed us to identify 4 main reasons:

- Its potential as a mean of payment(John Grapper)

Indeed, the use of Bitcoin as a means of payment allows, as explained to us by Albin Cauderlier and Jean-Luc Schmitt, an alternative to the chip card, the most widespread means today to pay for online purchases. The Bitcoin allows to overcome the limits of this one, especially for the e-seller:

- Speed of the transaction,
- Guarantee of funds,
- Peer-to-peer transactions without intermediaries and therefore with little cost
- An international currency with no conversion fee
- No cancellation of possible transactions and therefore no charge back.

Today, however, the use of Bitcoins in everyday life is still very limited (little acceptance point and few users. We recommend to our readers to visit coinmap.org in order to view physical points of sale accepting Bitcoin all over the world) and do not generate enough transactions to really bring down costs. It is more of a marketing tool to convey an image of

innovation. And it works, despite the campaign of denigration that Bitcoin has undergone.

Finally, since the Bitcoin ecosystem is being developed, Bitcoin does not currently compete with traditional payment methods in terms of speed and optimization: *"I realized that the payment industry was already very optimized and therefore difficult today to compete directly: it takes an irreproachable customer experience, it takes real time ... A debit card payment can take up to 15 seconds, in practice it takes between 5 to 7 seconds. It would therefore be necessary to go for the maximum 3 seconds of transaction time to be in the standards and thus differentiate itself from the other means of payment. Today all this is still complicated."* Albin Cauderlier

- Its potential for facilitating transactions (John Grapper, François Deschamps, Aviv Zohar)

Since Bitcoin is a decentralized network, it allows players who do not have access to a bank account and a smart card to be able to buy or sell. Moreover, being a global currency and without state regulation, individuals and users are free to manage their capital and to transfer them without any controls. Etienne Dutang gives us an example: *"With Bitcoin, from anywhere I can send very quickly, the amount I want to anyone in the world with almost no transaction costs. Yes, it does facilitate transactions."*

However, there is a limit when it comes to converting a large sum of Bitcoin into "real" currency (Euro, Dollars ...) to its bank account. At that time the financial and tax authorities can and generally will ask you to justify this amount. Thus the conversion of the Bitcoin and the integration of it in a conventional banking system will be subject to control.

- Its political dimension (Paul Vigna et Michael Casey)

Bitcoin intervenes on several aspects and cannot be detached from one of its dimensions as Clement Francomme explains: *"At the beginning I was interested in Bitcoin for entertainment and leisure. I was reading articles by John Law (blogger, Bitcoin and crypto currencies expert (12)) who spoke about the fundamentals: What is money? What are its mechanisms? Who controls, possesses and regulates it? Having technical training I was also interested in the source code of Bitcoin. So I quickly realized that this technology had an interest that far exceeds all the technologies known today. Why? Because in its very foundations, it intervenes at the border of all that exists today representing within it, a challenge strong enough for the computer industry: it is a method of organizing information, a software representing this method called the Bitcoin protocol and finally it is an infrastructure. Therefore, a computer hardware and an economic activity that is totally self-regulating by the software itself. It is thus a complete industry all by itself which mixes economic aspects but also politics, hardware etc. It's very broad. We cannot settle on it and focus only on one of these points, because very quickly it transpires on the others and all the points become important."*

Bitcoin is very often presented and was created as an alternative to the conventional financial and monetary system, controlled by banks and governments and which leaves little sovereignty to its users. It is difficult for an individual to intervene on the currency.

All of our respondents were initially interested in this currency for its libertarian aspect and for its decentralized character allowing everyone to dispose of his capital as he desire. Often this political dimension is one factor of the selection of use, or at least it was one of the prime attractiveness factors of our respondents: *"In 2011 I discovered Bitcoin, I am fascinated and passionate about this new technology, being a bit libertarian, the idea of a currency without a central bank seduce me."* Etienne Dutang

12 <http://www.coindesk.com/author/john-law/>

To these factors is added a factor specific to the entrepreneur profile of our respondents. Indeed, as we have said several times, our respondents are enthusiasts who very early felt the need to create their companies in order to transform a system in place that today only intermediaries (banks, payment means companies, e-commerce platform) benefit from it at the expense of users. This desire to transform and revolutionize people's everyday lives is really a strong characteristic that we find among all our respondents and which is often common to entrepreneurs: *"We should not see Bitcoin as a global system operated top-down but rather bottom up. It is individuals who have an interest in using it and not governments and corporate, it is the currency of individuals! It has been thought specifically for individuals to like it: no intermediary and a gold-like behavior, in other words a store of value."* "Clement Francomme.

"Bitcoin (which is the source of all current Blockchain projects) is the possibility of a financial revolution that tends to reduce the privileges of banks and major financial groups, to compete with major platforms (Amazon, Google, Microsoft, Apple, Paypal...). Small entrepreneurs will be able to trade directly with their customers in the future without having to go through the processes hyper-capitalism centralizer. In this sense Bitcoin gives back wealth to those who produce and to those who innovate." Jean-Luc Schmitt

"Bitcoin is a new technology and currency that revolutionizes our thought patterns and conventional systems in place. Its potential for transformation is very impressive and is attracting more and more entrepreneurs and large companies. There is also the practicality, the fact that it is open data, open source, and instantaneous." Albin Cauderlier

Its benefits are concrete and would allow numerous transactions applications to exist, both financial and operational, as Clément Francomme, Kariappa Bheemaiah and Mathieu Molines explain.

Bitcoin and Blockchain technology being "created" by machines, this also induces an innovation that is at the software, hardware, or hardware and computer composite level in order to seek more and more an optimization of the equipment and thus a reduction of the costs: *"I think it supports a lot of fundamental research in hardware and semiconductors. There is a lot of funding from private funds representing more than \$100 million a year to get*

equipment more and more efficient. ATI for example had a worldwide stock-out of one of its products in 3 months because a crypto currency had increased too much. This shortage occurred because the graphics card they offered was the most efficient and cost-effective card in the world to use the technology. This is the first time that it happens, and it shows how a crypto currency can impact a big company. On the hardware side, there's a lot of R & D that goes into it: performance per wat, energy performance, cooling performance and so on, all this is very sought after because there are real economic stakes.” Clement Francomme.

Bitcoin also allows thousands of people to create and manage financial projects, something totally impossible to do before and to suppress intermediaries. As Emilien Dutang says, Bitcoin is similar to the Uber phenomena but applied to finance, a trend that is becoming more and more a part of our daily lives and that we have adopted into our consumption habits very quickly (Uber, Air BNB ...). *"Bitcoin supports the creation of business in general, and more specifically business like mine, that is, companies that want to make this technology available. We do not create Bitcoin but we make it available in one form or another. There are, in fact, a lot of companies that are launching their Bitcoin or Blockchain activities, at least 1,000 have raised money, and I do not know how much are created every day to use this technology fundamentally. In addition, it attracts profiles that are very curious, very passionate and very technologically sharp. For my part it is a pleasure to interact with these people because they are very aware. For me, Bitcoin helps to orient the directions of new companies and quite a few entrepreneurs feel that this is a topic that is interesting.”* Clement Francomme

From all those highlights, I believe I have answered my problem: Does Bitcoin and the blockchain support innovation and start-up? And so validate our hypothesis

H1: Bitcoin supports business creation and innovation

Indeed, Bitcoin allows creating new and very innovative companies although it is important to remember that mentioning Bitcoin in its business model can sometimes be a brake in launching and accompanying its activity as Albin Cauderlier reminds us:

"I think that it is more difficult to create a Bitcoin company because we are not numerous enough yet, too little known and too hidden because of this bad image. On a global scale,

Bitcoin fully supports business creation because it creates start-ups around the world, creates applications, services, and allows anyone to sell and buy products, or raise funds. Yes Bitcoin and Blockchain technology really allow creation and innovation at a worldwide level but there is really a brake in France. I do not want to do ant patriotism that's not the case at all! But in France today there is a lack of developers, investors and customers..."

There is also a problem of market size as explained by Emilien Dutang. When creating a business with a Bitcoin activity, the targets Bitcoin users, and this community is still very limited in number, and more and more competitors and new companies offer services that meet all of the customer's needs in this niche. Finally, the technical problem of the system and its possible saturation is also an important point to consider even if like all our respondents I believe this problem will be fixed soon thanks to the technological development and progress to come in the future.

The market and its ecosystem are still only in the development phase and there is still no way of knowing how it will evolve even if the majority of our respondents are optimistic.

Recommandations

The Bitcoin and the Blockchain technology support innovation and business creation, but this result is to be balanced by the reality we have outlined above. I invite my readers who wish to embark on the Bitcoin adventure to master and deeply learn about this currency and its technology. There are many websites and blogs held by users and members of the Bitcoin community. I particularly invite our readers to visit the site bitcoin.fr which is the French reference of the subject since 2010.

I also warmly invite our business readers to accept the Bitcoin as a mean of payment in their activities so that they can benefit from an innovative brand image and to use Bitcoin as a mean of differentiation. As explained above, accepting Bitcoin as a mean of payment will cost you almost nothing. I then invite you to study the services offered by Albin Cauderlier (Mubiz.com) and Clément Francomme (UtoCat.com).

Finally, for our readers who want to integrate Bitcoin and Blockchain into their activities, I recommend that you highlight the Blockchain image rather than Bitcoin to overcome the bad image conveyed by Bitcoin, as did the set of respondents.

Moreover, as Emilien Dutang explains, the use of Bitcoin sometimes cannot meet certain needs because of its technical limitations: *"We no longer speak of Bitcoin but of Blockchain which is the hot subject of the moment. For projects we do in the bank, we do not use Bitcoin because the confirmation times are too long ... Bitcoin is not really adapted to industrial projects, it is based on other Blockchains but it is related to a technical question."* It is therefore important to concentrate on the Blockchain and to integrate the Bitcoin protocol if needed. I invite my readers to look at some alternatives (there are now more than 750 cryptocurrencies) such as Ethereum: *"Ethereum is a currency like Bitcoin but we hide it, there is not a single place on the internet where we say Ethereum is a currency, but it is definitely one. We precisely do that in order to avoid the Bitcoin debate. In addition to bypassing this noxious image, Ethereum differentiate itself by its programming language aspect which is much more developed than Bitcoin. It opens much more doors, as for example as a mechanism intelligent enough to make you pay for the exact amount of data that you used. It is much more flexible than Bitcoin. It really has a much more deployed smartcontract use than Bitcoin. Keeping in mind that Bitcoin and Ethereum are source code, it's just code, so sooner or later if we change the programming language of Bitcoin or if we extend it in order to match Ethereum, it can do the same thing as Ethereum."*

Finally, I recommend that my readers position their activities in a B2B sector rather than B2C because we believe, along with our respondents that the adoption of Bitcoin by the population can be done only through the companies and the integration of the Bitcoin and Blockchain protocols into their activities. I believe that the adoption will only happen faster through companies that will trivialize the use of this technology and make it more reliable for individual users.

I believe after this research that the use of Bitcoin in the next few years will be technological rather than monetary. Indeed, it is individuals who use money and are the ones who would

have the most to gain by adopting this mean of payment and store of value. However nowadays, the adoption is too slow and the situation is not expected to improve dramatically for several years. This change must therefore come from users and Bitcoin players who must facilitate its adoption, in particular by facilitating access to this currency which is now too complicated. It would therefore be interesting to search in a next research what can be the technical means, marketing strategies and conduct of change needed, to accelerate the adoption of the Bitcoin as a mainstream currency by the general public.

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Appendices

Interview guide

Good morning, first of all I wanted to thank you for agreeing to answer my questions. Could you first present yourself and then present your personal and professional background please?

What is your business and its activity?

In which market is your activity settled and what is the typical profile of your consumers?

How and when did you hear about Bitcoin for the first time?

What was your first relationship with the Bitcoin?

What image did you have of Bitcoin?

Did you directly perceive a potential? If so, what was it?

How did you get the idea of creating a business thanks to / in connection with the Bitcoin?

What need in particular did you want to respond to?

How did the Bitcoin respond to this need?

What were your fears and expectations of the Bitcoin?

How did you use the Bitcoin to create your business?

Why did you choose the Bitcoin?

How long did it take to start your business? Has the use of Bitcoin in your business model influenced (in good or bad) this duration?

Was your activity easy or complicated, especially given the lack of knowledge about the Bitcoin technology of the general public?

What was your initial investment? Has the use of Bitcoin had an impact on the cost of this investment and how?

How did you manage the risk of this technology on your business?

Have you encountered barriers, when setting up your business, administrative / banking or other? Were they important? How did you get around them?

Has the use of Bitcoin in your transactions / business model been hampered by certain institutions (especially banking)?

How were you accompanied when you started your business? Has the particularity of the Bitcoin technology been a handicap in your accompaniment?

What were the first direct benefits of using Bitcoin in your business? What were its weaknesses, limitations?

How do you use Bitcoin on a daily basis within your company?

Have you been able to maximize your profits by reducing certain costs (especially banking /

intermediaries)? Did Bitcoin help you with your transactions?

Did the Bitcoin promote the internationalization of your activities (if there is internationalization)?

What is the future of Bitcoin for you? How will this affect your activities?

What examples of Bitcoin's business success and failure come to mind and illustrate the limits and opportunities of Bitcoin?

What image do you think the Bitcoin has now? How does this impact your brand image? And the attitude of your consumers?

Would you advise a young entrepreneur to use the Bitcoin to create his business (in his activities or as mean of payment / financing)?

In your opinion does the Bitcoin supports the creation of business and innovation?

Iconography

How a Bitcoin transaction works

Bob, an online merchant, decides to begin accepting bitcoins as payment. Alice, a buyer, has bitcoins and wants to purchase merchandise from Bob.

WALLETS AND ADDRESSES



Bob and Alice both have Bitcoin "wallets" on their computers.



Wallets are files that provide access to multiple Bitcoin addresses.



An address is a string of letters and numbers, such as 1HULMwZEPkEPwCh43BwKLLybLCWfDpN.

CREATING A NEW ADDRESS

Bob creates a new Bitcoin address for Alice to send her payment to.

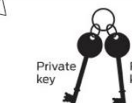


Each address has its own balance of bitcoins.

SUBMITTING A PAYMENT



Alice tells her Bitcoin client that she'd like to transfer the purchase amount to Bob's address.



Public Key Cryptography 101

When Bob creates a new address, what he's really doing is generating a "cryptographic key pair," composed of a private key and a public key (which only you know). It can be verified by using the matching public key (which is known to anyone). Bob's new Bitcoin address represents a unique public key, and the corresponding private key is stored in his wallet. The public key allows anyone to verify that a message signed with the private key is valid.



Alice's wallet holds the private key for each of her addresses. The Bitcoin client signs her transaction request with the private key of the address she's transferring bitcoins from.

Anyone on the network can now use the public key to verify that the transaction request is actually coming from the legitimate account owner.

It's tempting to think of addresses as bank accounts, but they work a bit differently. Bitcoin users can create as many addresses as they wish and in fact are encouraged to create a new one for every new transaction to increase privacy. So long as no one knows which addresses are Alice's, her anonymity is protected.

VERIFYING THE TRANSACTION



Gary, Garth, and Glenn are Bitcoin miners.

Their computers bundle the transactions of the past 10 minutes into a new "transaction block."



The miners' computers are set up to calculate cryptographic hash functions.

