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USE OR NOT TO USE BITCOIN THIS IS THE QUESTION

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Abstract:
Bitcoin emerged in 2009 leading to wide discussions on a public as well as private level about its true and genuine meaning, function, purpose and future. Seven years later, Bitcoin is an undeniable opportunity and/or threat for our post-modern, global information society. The biggest challenge regarding Bitcoin is the lack of awareness about it, and its misunderstanding. In the era of IS/IT, governments are hesitant about a correct approach and appropriate policy with respect to Bitcoin, while individual businesses are faced with a critical strategic choice - to use or not to use Bitcoin. This paper explores an abundance of fresh primary data from addresses and secondary data generated by academic and professional publications. Their critical analysis satisfies the goal of this paper, to de-mystify Bitcoin and to facilitate educated decisions about it.

Introduction

A sustainable economic growth and competitive advantage are recognized macro- and micro-economic priorities, and positive and negative influences and factors regarding them are the cynosure in our post-modern global society. The robust positive factors include "bureaucracy quality", "democratic accountability", "lack of corruption" (Franců et al., 2015) and the effective and efficient use of information systems and information technology ("IS/IT") (MacGregor, 2014). When negative factors prevail, such as exponential monetary speculations (Kala, 2015), crises re-occur, such as in 2008. A partial answer for many of these undesirable factors might be the decentralization, virtualization and peer-to-peer verification, such as offered for the last several decades by the Internet and during the last seven years by the mysterious Bitcoin. The growing usage and immense public interest regarding Bitcoin has raised

deep economic and societal issues (Cheah, 2015).To use or not to use the Internet is now a moot point, but what about Bitcoin? Bitcoin cannot be ignored and each and every government and individual business needs to make informed strategic decisions about it and its employment, while taking a scientific, open-minded approach.

1. Methods, literature overview

The selection of an appropriate approach endorsed by the right policy and leading to correct distribution of competencies and responsibilities is challenging on individual as well as global levels, for both private businesses and public authorities (Cvik & MacGregor, 2015). Our post-modern, global society strongly relies on IS/IT and knowledge is not only power, it is a must, especially regarding an electronic phenomenon with a potentially critical impact on business, the economy and management, such as Bitcoin. To address it, a critical comparative Meta-Analysis needs to be performed while appropriately considering and reflecting data from a large global spectrum generated by both primary and secondary sources. Firstly, this analysis must inherently include the static description and historical exposure completed by dynamic and multi-spectral exposure to many features and functions of Bitcoin. Methods should not only focus on what Bitcoin is, but as well for what it can be used and abused and how this should be done. The static and dynamic definition and functions of Bitcoin need to be methodologically established while respecting axiomatic as well argumentative features. Secondly, an analysis of various perspectives regarding Bitcoin and their consequences needs to performed. Thereafter, it is possible to move to the climax of this paper, namely to answer the question whether Bitcoin belongs to business and economic life in 2016 and how to take advantage of it. The almost seven years of existence and operation of Bitcoin were subjects of a myriad of reactions, reflected by price variations, as well scientific, professional and laic publications with contradictory conclusions. Thus, both the primary and secondary sources, including not only articles from WoS and Scopus databases, need to be explored in order to understand Bitcoin and perspectives upon them. Considering the virtual and crypto features of Bitcoin, this massive search should be done in an open-minded manner and consider both conventional, as well as less conventional, discovery techniques. The generated data has a dramatically different weight, importance and scientific credibility and thus has to be processed forensically and through the above mentioned Meta-Analysis with the mantra that we know more than what we realize. Meta-Analysis is an analysis of analyses, processing a large collection of results from individual studies with the goal to integrate their findings (Glass, 1976). The conglomerate of secondary data can be processed in a complementary manner along with direct and indirect primary data, such as a field search regarding Bitcoin, its volume, pricing, indexing, exchange rate etc. Bitcoin is a decentralized, digital, peer-to-peer recognized and controlled crypto-currency inherently linked to the Internet, a special payment network system and software, with potential to perform many functions, legal and illegal, positive and negative. For some of them,

Bitcoin is a speculative bubble following a Ponzi scheme unable to positively contribute to sustainable and fair development, while for others, Bitcoin is a trustworthy, effective and efficient instrument matching Internet decentralization and the multi-stakeholder model and a genuine model to be followed. Does Bitcoin have a Silk road or a rocky road ahead? Should it be used or rejected, regulated or remain free, purchased or spent? There are many myths and misunderstandings, a lot at stake.

2. Results

Money and currency deserve a good modern theory and practice based on actualized theories of value (Kala, 2014), the fiat money and fractional-reserve banking economy induces exponential speculation, and is hard to reconcile with sustainable development of the IS/IT global community. The virtualization and e-form should be taken advantage of on the macro- as well micro-economic level and Bitcoin could be a viable option.

In 2008, the financial crisis and other related crises shook trust globally and regarding many instruments, including monetary instruments. A particular and sui generis reaction came one year thereafter, and mathematic science attempted to prime the economic science. The mysterious developer, or group of developers, Satoshi Nakamoto, launched Bitcoin, its software and network as a digital crypto-currency platform designed to reinvent the way that money works (Bradbury, 2013). The variables of game inclinations and game theories (Johnson et al., 2014) along with investment and consumption elasticity (Kovárník & Jedlička, 2015) and many other factors and unknowns, as well as the general world setting, start to shape the destiny of such an intangible instrument, perhaps asset. However, over years, it has become obvious that Bitcoin is much more, and its many unique features make it a sui generic phenomenon. One of the unique features of Bitcoin is that it was brought "into" circulation neither by governments nor banks, instead so-called miners do it by carrying out resource-intensive IS/IT proof-of-work operations and each and every Bitcoin transaction is peer-reviewed (Johnson et al, 2014). Relationships between these miners are dynamic, they form pools to increase their chances to "mine" Bitcoin and it is suggested that larger mining pools have even a greater incentive to attack than smaller ones (Johnson et al., 2014). An additional significant feature of Bitcoin is its low cost transaction capacity (Kim, 2015) and its capacity to serve as an investment instrument. The reported data about its daily return is highly interesting. The S&P 500 Index daily return with respect to relative volatility led to the conclusion that Bitcoin volatility is internally (buyer and seller) driven (Baek & Elbeck, 2015). It is instructive to follow the exchange rate BTC v. USD while paying attention to critical external events (Tab. 1) and discrepancies between available data provided by two key online sources (Tab. 2).

TAB. 1: Bitcoin price (USD) evolution 2011-2015 with events comments

Date	1/1/2011	1/1/2012	1/1/2013	1/1/2014	1/1/2015

USD	0,3	5,27	13,30	770	316
Note	Wikileaks accepts Bitcoin	First halving of Bitcoin	Cyprus bail in, Max Price USD 1200 in 11/13 and Ulbricht arrested and Silk Road closed	Mt.Gox files for bankrupty and False reports on Bitcoin in China	Ulbrich convicted in February 2015 Karpeles indicted in September 2015 in Japan

Source: Prepared by authors while using CoinDesk Website and BitCoinHelp Website

TAB. 2: Bitcoin price (USD) evolution from 1st January to 1st September 2015

Date	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Price in USD (a)	316	227	259	247	234	224	254	282	228
Price in USD (b)	316	226	259	247	232	223	258	280	227
Difference (a) (b)	0	1	0	0	2	1	4	2	1

Source: Prepared by authors while using source (a) Coinbase Website (b) CoinDesk Website

Another critical feature of Bitcoin is its anonymity and linking to Internet, both the light and dark web. Along with many fair, just, legal and legitimate webs and websites relying on Bitcoin, in 2011 there emerged a website called Silk Road and serving as an online black market platform to sell drugs. In 2013, the American FBI shut down Silk Road, seized a certain amount of Bitcoins and arrested the founder of Silk Road, Ross Ulbricht from Texas. He was found guilty in a jury trial, convicted and will spend the rest of his life in US federal jails and the seized Bitcoins were sold in public auctions. It would be remiss not to mention the peer-review feature of Bitcoin linked to the peaceful cooperation and much less peaceful mining activities. Events from recent years have proved the peer-confirmation of Bitcoin transactions does not lead to legality and that people facilitating Bitcoin payment transactions are not (always) altruistic IT experts desiring to help humanity and free the world population from excessive banking transfer fees. A recently completed empirical investigation confirmed that Bitcoin prices are prone to significant speculative bubbles and stated that the fundamental value of Bitcoin is zero (Cheah, 2015). The intuitive wider concern about Bitcoin long-term viability starts to be backed by scientific data … although this data is not conclusive.

More casuistically, until now, the identity of the Japanese fathers of Bitcoin remains unknown, while it is well known that the biggest Bitcoin exchange company, Mt. Gox, based in Tokyo, filed for bankruptcy in 2014 while admitting that 850,000 (Bit)coins worth by then approx. USD 480 million (with current rates, it would be around USD 390 million) had disappeared from its digital vaults. The intangible money, perhaps investments, truly disappeared, leaving justly furious third parties who suffered damage without any real chances to enforce compensation or recuperation. It is hardly a consolation for them to know that Mt. Gox has been operating massively until 2014 while imposing a truly low fee ranging between 0.25% and 0.60%, while other Bitcoin exchanges charge fees ranging from 0.2% to 2.0% (Kim, 2015). Similarly, charging low

banking fee does not excuse a bank and bank management if money from the clients´ accounts disappears. The, so-far, last act of this Bitcoin drama occurred in September 2015, when Japanese prosecutors charged the owner of Mt.Gox, Mark Karpeles born in France, with embezzlement and fraud. Ross Ulbrich, during his trial, claimed that the "bad" guy behind the Silk Road is not he but Mark Karpeles, and Karpeles promptly publicly denied the claim on social e-networks, namely Twitter.

3. Discussion

Money began as the exchange of trustworthy commodities, such as gold, and the difficulties linked to their transport and maintenance led to the emergence of fiat currency, such as dollars, which is still (at least to some extent) trustworthy and liquid, but as well it is inflationary and fragmented (Bradbury, 2013). In addition, fiat currency has been encountering ever more banking fees and regulations (Bradbury, 2013). Bitcoin is the first virtual currency that is attempting to substitute for the role of real currencies, while other virtual currencies, like game currencies, remain as auxiliary currencies that aid in transactions that real currencies cannot easily do, such as transactions within an online game (Kim, 2014). Bitcoin is a decentralized peer-to-peer crypto-currency protocol (Brandvold et al., 2015) which has served almost 70 million transactions between over 110 million accounts while total Bitcoins minted is 15 million representing almost USD 3.5 Billion (Böhme et al., 2015). Arguably, Bitcoin is more trustworthy and linked to less banking fees and regulations than a fiat currency, at the same time Bitcoin has a potential to disrupt existing payment and monetary systems (Böhme et al., 2015). Boldly, Bitcoin is an opportunity and threat for the global society.

There is "not much" under and behind Bitcoin and there is strong evidence that Bitcoin volatility is internally driven and thus the Bitcoin market is highly speculative (Baek & Elbeck, 2015). Criminal activities of key persons involved with one of the most significant Bitcoin market platforms, Silk Road of Ulbrich, and one of the most significant Bitcoin exchange and transaction centres, Mt. Gox of Karpeles, and quasi-criminal activities of many aggressive Bitcoin miners put Bitcoin in a very dark light. However, it would be superficial and populist to conclude that Bitcoin is a speculative instrument often linked to criminality, after all millions of non silk road transactions take place successfully and in other exchange centres, such as Russian BTC-e and Chinese Btcn (Brandvold, 2015). Bitcoin should be assessed while considering not only national governments policies and a few abusers, but as well its millions of users, often members of the millenium generation. They seem to be rather pragmatic and interested in IS/IT as well as in sustainable development and competitiveness, and not inclined to endorse short-sighted speculations (MacGregor & Cvik, 2015) and "freeze in." Several competing virtual currencies, such as Litecoin (Böhme et al., 2015) have even more attractive features than Bitcoin and for success just miss the excitement which boosted Bitcoin. A significant volume of Bitcoin has been traded speculatively, in the hope of future appreciation, and it is unknown when the market will reach equilibrium (Kim,

2014) as well how, in the future, Bitcoin will impact various national and international regulations. It may be argued that the Bitcoin speculation extends to the micro-economic as well macro-economic level. A cyber-economy with a cyber-currency might serve as a testing laboratory for real economies with conventional monetary instruments and policies (Kim, 2014). Arguably, a Bitcoin experiment may be less costly and dangerous than doing it in the "real world". However, legal and ethical concerns and restrictions need to be considered. Western Civilization, which is based on Christianity, rests on several doctrines such as the rule of law, human rights, and both individual and state (!) liability. A balance must be reached between the individual freedom and justice, between state and individual interests. An important step in this direction has been accomplished by the European Court of Justice ("ECJ") on 22nd October, 2015 in C-264/14 Skatteverket v. Hedqvist, where the ECJ stated, based on Directive 2006/112 on the common system of VAT, that Bitcoin is a virtual currency exchangeable with traditional currencies and that no VAT should be imposed on these exchanges. According to ECJ, "…the exchange of traditional currencies for units of the 'bitcoin' virtual currency and vice versa, …, are transactions exempt from VAT." Hence legal transactions realized with a Bitcoin payment system are not exposed to VAT linked specially to Bitcoin as such. At the same time, illegal behaviour linked to Bitcoin falls under the hammer of the Directive 2014/57/EU on criminal sanctions for market abuse.

Conclusion

Bitcoin is a unique phenomenon with an abundance of special features and hardly ascertainable impacts. Bitcoin is a virtual currency based upon the bottom-up approach launched by individuals from the IT sphere with hard to discover enforced accountability. Bitcoin is a decentralized, private, peer-reviewed earning and payment system. Bitcoin is an online communication protocol for virtual currency usage (Böhme et al., 2015). Bitcoin is a concept, perhaps even philosophy and life style. Bitcoin has been progressively moving from the sphere of games and empirical lab experiments to the real daily life. The people behind Bitcoin, as well as the legality and legitimacy of Bitcoin and Bitcoin operations, are definitely not clear, perfect and beyond "any reasonable doubt". Interestingly, the most recent approach to Bitcoin on both sides of the Atlantic are compatible and pragmatic. The USA and the EU take Bitcoin seriously, recognize its capacity to serve as currency and apply to it law in an objective manner. Americans punish embezzlement regarding Bitcoin and Europeans perceive Bitcoin as a currency and not a commodity to which VAT should be applied and, similar to Americans, do not hesitate to address criminal abuse of Bitcoin. Let´s consider the Bitcoin concept and apply to its aspects and outcomes legal frameworks and enforce relevant rules, let´s take advantage of the IS/IT as well as of the global consensus while remaining vigilant and cautious. Bitcoin has a great potential for both use and abuse.

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