

# The Disruptive Power Of Virtual Currency

## Is It Real?

*By The Business Research Desk*



# Executive Summary

**V**irtual currency has been a debated concept within the technology community in the past few years, as transactions through this medium do not require any third party's involvement. The concept has generated mixed reactions from investors, regulators, traders and online exchanges.

The potential for virtual currency is immense in this age of technological innovation, and businesses worldwide are assessing the pros and cons of adopting it.

This document discusses the current and potential impact of virtual currency on sectors such as banking, payments, e-commerce and insurance. It assesses how various countries are prepared to adopt the medium and how it would impact the way businesses carry out transactions in the future.

Although there are several types of virtual currencies, for the purpose of this study, we have focused only on convertible virtual currency (i.e., currency that can be converted into fiat money). The document highlights how virtual currency would play a role in disrupting the conventional payment and transaction models. Additionally, it focuses on how certain industries, such as e-commerce, have largely accepted virtual currency, while traditional sectors, such as banking and insurance, are cautious and still evaluating the associated risks and potential benefits before adopting it on a much wider scale.

This document further highlights the trends in the adoption of virtual currency in the past few years, from the perspective of companies, regulators, investors and others. Moreover, it showcases countries (for example, the UK and the US) that have shown interest in adopting virtual currency and those (for example, China and India) that are reluctant to adopt it.

We also discuss the various challenges associated with virtual currency. Based on research, currency volatility and the absence of an authorized regulatory structure are the biggest challenges faced by businesses in adopting virtual currency.

We are of the view that although virtual currency is expected to become an important part of businesses in the short and medium term, there is a lack of clarity on its impact with regard to substituting traditional transaction models. The adoption of virtual currency faces many challenges. However, the prospect and potential of virtual currency adopting the characteristics of fiat money, including a medium of exchange and share of value, are high. The possibility of virtual currency completely replacing paper money would largely depend on advancements in math-based technology, a stronger regulatory framework and its adoption.

## Contents

The Rise Of Virtual Currency	4
Recent Trends In The Adoption Of Virtual Currency	8
Strategies Adopted By Stakeholders	11
Challenges Faced By The Virtual Currency Industry	12
Conclusion	13

### Contributing Authors

**Prachi Ashani**  
Associate

**Charu Thukral**  
Analyst

**Shweta Oza**  
Analyst

**Radheshyam Moholkar**  
Analyst

**Ashwin Ramakrishnan**  
Manager

## The Disruptive Power of Virtual Currency

# Is It Real?

---

**“Virtual currency is the next disruptive force to hit payments, banking, financial markets, retail and so many other industries.”**

— Kathy Doyle,  
EVP and Publisher of the Networld  
Media Group

---

Virtual currency is an unregulated medium of exchange controlled by its developers and is acceptable among the members of a specific virtual community. It is accepted and operated as a currency and commodity.

Although virtual currency adoption is at a nascent stage, it is expected to have a significant impact on the way businesses operate over the next five years. The biggest impact of virtual currency is expected to be realized by the digital payments and transactions industry. Other industries are also taking steps to adapt to the growing preference for this currency.



# The Rise Of Virtual Currency And Its Acceptance In Sectors Such As Banking, Insurance And E-Commerce

---

While virtual currency may never be a comprehensive substitute or replacement for existing currency or transaction models, it can be a major disruptor in sectors such as banking, e-commerce and insurance. Rapid growth in digitalization, and exchange of goods and services over the internet could translate into increasing penetration of virtual currency over the next few years.

## Virtual Currency In The Payments Industry: A Disruptive Influence

**"New payment systems are creating greater efficiencies and convenience, and virtual currencies offer the prospect of instantaneous transactions directly between individuals and entities on a global basis. These innovations are potentially revolutionary in their impact, and are advancing at a breakneck pace."**

— Thomas J. Curry,  
US Comptroller of the Currency (OCC)

Virtual currency has already impacted the payments and transaction banking space, which are the most prone to the threat of the evolving medium. Leading industry players have recognized the impact of virtual currency in this space, and have taken steps to adopt the medium. For instance, PayPal has announced that it would soon allow customers to pay in bitcoins (a virtual currency<sup>1</sup>), while players, such as Amex and Visa, are working toward adopting virtual currency to some extent. The preference for and strength of virtual currency has led to the establishment of several start-ups offering next-generation payment solutions based on virtual currency. Companies offering virtual currency typically provide services at low costs. While most payment service providers charge fees of 2.5–3% per transaction, these fees are eliminated in the virtual currency transaction model.

Moreover, virtual currency has been widely accepted in the foreign remittance space, where it helps to reduce the cost of transaction compared with the conventional remittance model. Companies operating money transfer and remittance businesses, such as Western

Union and Money-Gram, are expected to change their business model due to the introduction of virtual currency. meXBT, a US-based foreign exchange, has introduced virtual currency-based foreign remittances from the US to Latin America<sup>2</sup>. E-currency has also provided ease of payment for charities and donations in the case of foreign aid<sup>3</sup>. Companies, such as Bitspark, are disrupting Hong Kong's remittance market by transferring cash from the customer to the end user using bitcoins.

While virtual currency is having a significant impact on the payments industry, it is important to note that the impact is not yet, or may not be, realized at a global level, but confined to certain geographies or countries. Africa and South America are the most likely to adopt the model rapidly, as virtual currency can improve the remittance business and help the unbanked population by providing access to digital transactions without a bank account.

The payments and transactions industry is the most susceptible to the disruptive influence of virtual currency, and the currency would play a vital role in this industry in the medium term.

<sup>1</sup><http://www.washingtonpost.com/news/morning-mix/wp/2014/09/10/ebays-paypal-embraces-anarchic-virtual-currency-bitcoin/>

<sup>2</sup><http://blog.equens.com/eu/2014/11/virtual-currencies-house-of-cards-or-mass-market-trend/>

<sup>3</sup><http://www.theguardian.com/sustainable-business/2014/nov/14/virtual-currencies-could-disrupt-billions-of-dollars-a-year-industry>

## Caution is the Key Word for the Banking Industry With Regards to Virtual Currency

**“Wells Fargo organized a meeting of banking experts and US government officials to assess how the financial and regulatory sectors should deal with virtual currency.”**

— Adrian Weckler,  
Virtual Mining, Feb 6, 2014

While leading companies in the payment transaction space have moved quickly to address the challenges associated with virtual currency (such as fraud, cyber-attack and money laundering) and accept the new currency, the conventional banking industry is largely undecided about the viability and potential impact of the new medium. Thus, while some banks are willing to include virtual currency in their operations, a large number of banks are skeptical about its role in the banking system. Banks, which are still recovering from the economic crisis of 2009 and its aftermath, are treading cautiously with regard to investment in the unproven and nascent concept of virtual currency. They would rather focus on creating innovative products and services to meet customers' needs in a better way.

While most major banks are waiting to assess the role and impact of virtual currency on the industry (Wells Fargo being a key example), some of them are moving to address the

challenges associated with the medium. Canada's major bank BMO has indicated its willingness to support virtual currency (bitcoins), if it is regulated. Germany's Fidor is the first bank to integrate with the Ripple payment network<sup>4</sup>. Fidor plans to open a branchless banking platform in the US despite uncertainty about regulations, which is expected to provide an impetus to crypto-currency players<sup>5</sup>. Bendigo Bank has launched a virtual currency called “creds”, which is generated every time consumers use its “redy” smartphone payment system<sup>6</sup>.

Overall, the banking industry is playing safe with virtual currency due to uncertainty about the regulatory structure and the current economic environment. In the near future, virtual currency is not expected to have any significant impact on the banking industry. However, the scenario could change in the long term, as regulations are introduced.



<sup>1</sup><http://www.washingtonpost.com/news/morning-mix/wp/2014/09/10/ebays-paypal-embraces-anarchic-virtual-currency-bitcoin/>

<sup>2</sup><http://blog.equens.com/eu/2014/11/virtual-currencies-house-of-cards-or-mass-market-trend/>

<sup>3</sup><http://www.theguardian.com/sustainable-business/2014/nov/14/virtual-currencies-could-disrupt-billions-of-dollars-a-year-industry>

<sup>4</sup><http://www.coindesk.com/fidor-becomes-first-bank-to-use-ripple-payment-protocol/>

<sup>5</sup><http://www.paymentssource.com/news/emerging-payments/german-ebank-fidor-moving-to-the-us-despite-uncertain-regs-3020637-1.html>

<sup>6</sup><http://www.theage.com.au/it-pro/business-it/redy-cred-go-bendigo-bank-rolls-virtual-currency-and-goodwill-into-app-20140613-zs6d2.html>

# In The E-Commerce Space, Virtual Currency Is Gaining Acceptance Among Both Merchants And Consumers

Payment systems in the e-commerce industry rely on the credit/debit card payment, net-banking and cash-on-delivery models. These payment modes involve issues such as a lag in the settlement process and information theft. Therefore, e-commerce companies are opting for payment via virtual currency, such as bitcoins, to avoid these issues.

Payments via bitcoins are similar to those made through credit cards. Therefore, virtual currency is gaining acceptance among both merchants and consumers. Increasing use of virtual currency in the e-commerce space is also driven by the following factors:

## Virtual Currency Involves Negligible Third-party Fees

Unlike the conventional credit card payment method, transactions in virtual currency skip third party processors, such as banks, and, therefore, save the charges involved with these transactions.

## Virtual Currency Expedites the Settlement Process

In the case of credit card payments, the amount is immediately deducted from customers' accounts (after the payment is processed), but payments are received after one or more days. This issue is addressed in virtual currency payments, wherein transactions are settled as soon as they are processed.

## Virtual Currency Transactions Offer Anonymity

Once the payment is completed through the bitcoin wallet, the public blockchain is automatically updated. This update only provides debit/credit amount information and not the account information for the same. Hence, the payer and the receiver are anonymous in the virtual currency ecosystem. This provides a security feature to participants involved in the transaction. As no relevant information is provided in the transaction flight of virtual currency due to protocol masking, hackers can gain access only at the transaction end-points<sup>7</sup>.

Virtual currency use, despite being at a nascent stage, is revolutionizing e-commerce transactions. Its acceptance by major players is likely to drive small- and medium-sized companies to adopt it and remain competitive in the industry. However, there are regulatory hurdles due to the decentralized nature of virtual currency, making companies in this space apprehensive toward adoption of virtual currency. This is one of the major hurdles in acceptance of the online currency in this industry at the global level.

### Successful Adoption of Virtual Currency in E-commerce

Dell, the third largest PC seller in the world, has started accepting payment via bitcoins, encouraging virtual currency payment over conventional money transactions. Dell planned this move in integration with Coinbase, a third party payment processor. To promote this feature, the company provided 10% discount (up to USD 150) on its Alienware product. After its successful implementation in the US (Dell became the biggest company to accept bitcoins), in February 2015, Dell announced its plans of rolling out the bitcoin payment feature in Canada and the UK.

### Unsuccessful Adoption of Virtual Currency in E-commerce

The Chinese e-commerce giant Alibaba Group banned the sale of bitcoins and related products on its website in January 2014, after the Chinese government banned virtual currency as a mode of payment.

China banned banks from accepting bitcoins as a currency over concerns related to potential money laundering and a threat to financial stability.

<sup>7</sup><https://bitcoinmagazine.com/18349/bitcoin-as-a-solution-to-e-commerce-pain/>

## Acceptance Of Virtual Currency In The Insurance Industry Is A Gradual Process And Would Be Driven By Success In Other Industries

Initially, insurance companies were reluctant to provide coverage for virtual currency transactions due to factors such as an unregulated and changing environment, high volatility in exchange rates, presence of hackers and scammers, and low global acceptance.

However, the scenario is rapidly changing now, as insurance companies are entering the virtual currency space to secure the stakeholders. For example, the Great American Group<sup>8</sup>, part of the American Financial Group, offers virtual currency insurance coverage to organizations; Meridian Insurance<sup>9</sup>, a Bermuda-based insurance company, offers virtual currency coverage to Xapo, an online bitcoin vault based in California; and Marsh, a US-based insurance firm, provides coverage for Circle Internet

Financial, an online virtual currency depository. Moreover, Coinbase<sup>10</sup>, one of the largest online bitcoin wallet providers, has partnered with Aon to provide insurance services to customers free of charge. Lloyd of Lubbock, which offers peer-to-peer insurance services (a relatively new concept in the insurance sector), has allowed the use of virtual currency for premium payments<sup>11</sup>.

Overall, full-scale adoption of virtual currency in the insurance sector largely depends on other factors such as a stable business outlook, large-scale adoption by other industries, and the ability to monetize online currency. Currently, acceptance of virtual currency in this sector is still at a nascent stage and further integration may take more time.



## Virtual Currency Gaining Traction in Other Sectors

Although the banking, e-commerce and financial services sectors are among the first to adopt or realize the impact of virtual currency, other sectors are gradually integrating virtual currency in their systems. Some companies in the aviation and restaurants industries have started accepting virtual currency.

AirBaltic, an aviation company, in partnership with BitPay, started accepting payments via bitcoins on its website for up to 60 destinations across Europe, the Middle East, Russia and the

Commonwealth of Independent States in July 2014<sup>12</sup>. Lithuanian airline Air Lituania has also followed suit.

Subway franchisees<sup>13</sup> have started accepting bitcoins as a mode of payment. The trend started in Moscow in 2013 and was followed by Subway franchisees in Allentown, Pennsylvania and Bratislava, Slovakia<sup>14</sup><sup>15</sup>. Currently, about 80 restaurants accept payments via bitcoins in the United States<sup>16</sup>.

<sup>8</sup> <http://www.coindesk.com/great-american-insurance-bitcoin-coverage-businesses/>

<sup>9</sup> <http://www.propertycasualty360.com/2014/07/17/insurers-now-offer-coverage-for-virtual-currencies/>

<sup>10</sup> <http://letstalkpayments.com/new-fight-stirred-insurance-virtual-currency-services/>

<sup>11</sup> <http://www.law360.com/articles/493748/does-bitcoin-have-a-place-in-the-insurance-industry>

<sup>12</sup> <https://www.airbaltic.com/airbaltic-worlds-first-airline-to-accept-bitcoin>

<sup>13</sup> <http://www.coindesk.com/yet-another-subway-shop-now-accepts-bitcoin-time-slovakia/>

<sup>14</sup> <http://www.coindesk.com/subway-sandwich-russia-bitcoin-payments/>

<sup>15</sup> <http://www.coindesk.com/bitcoin-accepting-subway-sandwich-shop-discovered-us/>

<sup>16</sup> <http://bitcoinrestaurants.net/>

# Recent Trends In The Adoption Of Virtual Currency

Since its introduction in 2009, virtual currency has been witnessing increased adoption and is drawing investments, and new technologies and methodologies are being developed to support its growth. While the level of adoption of virtual currency is different across industries, there are significant variations in the ways countries have embraced the new medium.

Despite the growing adoption of new virtual currency, some countries/regions (such as Europe) are reluctant to adopt it. Europe has reservations about adopting virtual currency and has recently issued a warning on a series of risks associated with buying, holding or trading virtual currency such as bitcoins<sup>17</sup>.

## While a number of countries have expressed reservations about the medium, some of the larger developed nations are now adopting the currency.

The European Banking Authority (EBA) has highlighted the unsecured system of virtual currency due to minimal regulation, which increases the risk of financial losses for consumers. EBA has also highlighted the high risks involved with virtual currency due

to absolute anonymity, which may encourage criminal activities. Following Europe's lead, Russia has warned its citizens against the use of this currency and has implemented stringent regulations to deter its use. On the other hand, some countries are explicitly accepting virtual currency in their system. The US recently prepared the BitLicense framework, which is an official document aimed at regulating and allowing more flexibility in the use of virtual currency, and safeguarding the interest of consumers<sup>18</sup>. Ecuador is using a different approach to launch government-backed virtual currency<sup>19</sup>. Its aim is to provide an alternative payment method<sup>20</sup> to 2.8 million people who cannot afford traditional banking<sup>21</sup>. Kenya has also allowed the integration of virtual currency in one of its most successful programs called M-PESA through Kipochi, a digital wallet.

### Acceptance of Virtual Currency by Country

<b>Singapore</b>	Singapore would regulate virtual currency exchanges, which would need to verify their customers' identities
<b>Australia</b>	The Australian taxation office would tax virtual currency as any commercial transaction
<b>New York (US)</b>	New York would regulate virtual currency under the BitLicense framework to protect consumers
<b>UK</b>	The UK would assess if virtual currency should be regulated; currently, it is taxed under goods and services tax
<b>Canada</b>	In June 2014, Canada regulated digital currency as a money service business under the C-31 bill  In February 2015, Quebec mandated virtual currency ATMs and a trading platform to secure licenses

### Virtual Currency yet to be Accepted by some Countries<sup>22</sup>

<b>Denmark</b>	Virtual currency has no trading value in the country
<b>Ecuador</b>	Virtual currency is banned, but the government plans to develop its own digital currency
<b>France</b>	France does not consider it as a currency under the law, and has warned against its use
<b>Kyrgyzstan</b>	The country bans the use of virtual currency and terms it illegal
<b>Russia</b>	Russia does not recognize it as a currency and is considering to impose administrative penalties on the use of virtual currency
<b>Sweden</b>	The country does not recognize it as a currency and has warned against its use

<sup>17</sup> <https://www.eba.europa.eu/-/eba-warns-consumers-on-virtual-currencies>

<sup>18</sup> [http://www.dfs.ny.gov/about/speeches\\_testimony/sp1412181.htm](http://www.dfs.ny.gov/about/speeches_testimony/sp1412181.htm)

<sup>19</sup> <http://www.bloomberg.com/news/articles/2014-08-11/ecuador-turning-to-virtual-currency-after-oil-loans-correct->

<sup>20</sup> <http://www.techspot.com/news/57896-ecuador-to-become-first-country-to-launch-government-backed-virtual-currency.html>

<sup>21</sup> <http://www.techspot.com/news/57896-ecuador-to-become-first-country-to-launch-government-backed-virtual-currency.html>

<sup>22</sup> <http://www.slideshare.net/rhamilton11/691-115-nycd2210pmp1heidiwicker1>

## Upward Investment Trend In Virtual Currency On Expectations Of High Potential

As virtual currency is becoming more mainstream, it is witnessing an increase in investments (as more players try to take advantage of the huge market potential). There has been a growing trend of venture capitalist investments in start-ups such as ChainPay, BitPay and Coinbase<sup>23</sup>.

These companies work on developing the payment platform for virtual currency, especially bitcoins. Bitcoin security platform BitGo raised USD 12 million in 2014,<sup>24</sup> which reflects the increasing investor interest in the virtual currency space. Virtual currency players are gaining recognition and are being encouraged by increased investments in this space.

Fund	Description	Investment
	KnCMiner, a bitcoin mining company, has received an investment for the development of next-generation chip technology. The investors include Accel Partners, Creandum, GP Bullhound and Martin Wattin (private investor) <sup>25</sup> .	USD 15 million
	In February 2014, Falcon Global Capital's first fund on virtual currency was initiated by lobbyist Brett Strapper. However, the fund was later closed in December 2014 due to low demand resulting from easy acquisition of bitcoins from websites and high competition among price index funds.	Unknown
	The fund was launched in May 2014 for equity investments in companies working with bitcoins for payments, exchanges and trades. The Future Capital Bitcoin Fund is registered as an Early Stage Venture Capital Limited Partnership (ESVCLP) under the Australian Venture Capital Act, 2002 <sup>26</sup> .	USD 30 million
	The fund, which was launched in March 2014, was formed by a joint venture of Fortress Investment Group LLC and Pantera Capital. It is controlled by Pantera Capital, and future and existing virtual currency-related transactions are managed by minority equity partners including Fortress, Benchmark Capital and Ribbit Capital <sup>27</sup> .	Unknown

<sup>23</sup><http://www.coindesk.com/payments-processor-chainpay-launches-challenge-coinbase-bitpay/>

<sup>24</sup>[http://dealbook.nytimes.com/2014/06/16/bitcoin-security-firm-bitgo-raises-12-million/?\\_r=0](http://dealbook.nytimes.com/2014/06/16/bitcoin-security-firm-bitgo-raises-12-million/?_r=0)

<sup>25</sup><https://www.kncminer.com/news/news-124>

<sup>26</sup><https://futurecapital.com.au/bitcoinfund/>

<sup>27</sup><https://www.cryptocoinsnews.com/frontier-pantera-investment-fund-focus-virtual-currencies/>

## Major Firms And Start-Ups Are Integrating Virtual Currency Into Their Operations

Virtual currency has received a boost in the recent past, with Apple integrating the concept into its operations. Apple is in the process of launching its digital wallet Apple Pay, which would allow customers to make in-app and store purchases through Apple gadgets. The company has tied up with Visa, which is working with various financial institutions to enable Apple Pay for Visa debit/credit card holders. Apple has also tied up with retailers, such as Whole Foods, Bloomingdales, Staples, Walgreens and Subway, to facilitate payments through its digital wallet. Other players adopting virtual currency for transactions include the Dish Network, Zynga, Overstock, WordPress and Expedia<sup>32</sup>.

Bloomberg, a financial software, data and media company, has begun tracking bitcoins. It would cover news about the currency and its pricing on its terminals. Expensify, a US-based provider of expense reports for small- and medium-sized firms, has begun accepting bitcoins (as the virtual currency provides a faster and lower-cost alternative for the company's international transactions). The company, which used PayPal and wire transfers to pay its international employees earlier, had to pay fees of 4% in the process, unlike payments in virtual currency, which are free<sup>33</sup>.

## Virtual Currency ATMs Are Being Established To Ease Purchase

In another recent development, ATMs have been set up to ease the purchase of bitcoins. ATMs scan the QR code of the virtual currency wallet, accept cash, and send bitcoins to an individual's virtual currency wallet. Bitcoin ATMs are being rapidly installed in North America, followed by Europe. Greece plans to install nearly 1,000

ATMs across the country by October 2015; this is likely to help Greece circumvent capital control as bitcoin is a decentralized virtual currency, which can be used as a medium of exchange around the world. Furthermore, bitcoin ATMs are present in the Middle East and Southeast Asia.

## Alternate Virtual Currencies Are Emerging In The Sector

Alternate virtual currencies have been introduced in the sector by creating a 'fork' (or offshoots) of a bitcoin through a process technically known as 'forking'. Virtual currencies, such as litecoins and peercoins, have developed and are more powerful than bitcoins. In a recent innovation, an alternate bitcoin (known

as Bitcoin XT) has emerged in the sector and is rapidly gaining traction. Although bitcoin traders are apprehensive about new virtual currencies, they are optimistic about friendly competition, which would be created by such 'forks'<sup>36</sup>.

<sup>28</sup><http://www.coindesk.com/apple-pay-threat-bitcoin/>

<sup>29</sup><http://usa.visa.com/clients-partners/technology-and-innovation/apple-pay/financial-institutions/index.jsp>

<sup>30</sup><https://www.apple.com/apple-pay/>

<sup>31</sup><http://www.reuters.com/article/2014/06/03/apple-virtualcurrency-idUSL3N0OK1JL20140603>

<sup>32</sup><http://www.bitcoinvalues.net/who-accepts-bitcoins-payment-companies-stores-take-bitcoins.html>

<sup>33</sup><http://venturebeat.com/2013/03/27/bitcoin-expensify/>

<sup>34</sup> <http://www.coindesk.com/bitcoin-atm-map/>

<sup>35</sup> <http://www.cnn.com/2015/08/19/greece-could-soon-get-1000-bitcoin-atms.html>

<sup>36</sup><http://www.bloomberg.com/news/articles/2015-08-18/bitcoin-is-having-an-identity-crisis>

# Strategies Adopted By Stakeholders

Various stakeholders including regulators merchants and retailers, and start-ups and payment providers, are taking measures to increase the adoption of virtual currency; approaches adopted by each group include the following:

## Regulators

### PROTECT USERS' INTEREST

Regulators are regulating virtual currency intermediaries, such as exchanges/digital wallets, rather than virtual currency. This is aimed at reducing risks and protecting users' interest.

For example, Qubec (Canada) has regulated virtual currency exchanges.

### TRANSITION STRATEGY

Until legal infrastructure is set up, regulators are discouraging financial institutions to participate in the virtual currency business. In some countries, regulators are taxing capital gains from virtual currency (for example, in Australia).

This approach is likely to change after regulations are introduced, and central banks may issue their own digital currencies.

### AVOID OVERSIGHT RISKS

Regulators are distancing themselves from the oversight of virtual currency, as it is not economically significant. As over-regulation could discourage innovation in virtual currency, regulators are only monitoring the development of virtual currency.

## Merchants/Retailers

### ENGAGE CUSTOMERS

Some companies are allowing customers to pay via bitcoins to engage them. For example, United Way Worldwide, a non-profit organization, accepts bitcoins in donations. This is a part of the strategy to engage customers.

### TRANSFER OF VALUE

The use of virtual currency for transactions is cheaper for retailers, who could transfer the value to customers. For example, Ripple, a payment system, currency exchange and remittance network, is built on a distributed open-source internet protocol.

## Technology Start-Ups And Payment Service Providers

### INCREASING AWARENESS TO EXPAND

In order to increase awareness about virtual currency, start-ups are training users and providing new features (to create a network effect). For example, use of the social network, as a learning platform, and conferences to promote virtual currency.

### DUAL STRATEGY

Payment service providers are lobbying for virtual currency in the US.

To remain competitive in the low-cost transaction space, some payment providers are investing in virtual currency start-ups. For example, Mastercard and eBay, which work with PayPal, would accept bitcoins in the near future.

# Challenges Faced By The Virtual Currency Industry

As discussed in the previous sections, there are some challenges associated with virtual currency, which have played an important role in the medium not being widely accepted across industries and geographies. Some of the notable risks include:

## Cyber Attacks

In March 2014, the world's largest bitcoin trading exchange, **Mt.Gox**, faced a cyber-attack, when the system was hacked and USD 409 million was stolen. The exchange was declared bankrupt and around one million bitcoin investors could not recover their money.

Virtual currency is stored in an online wallet, which is a private, encrypted file and is vulnerable to cyber-attacks. Any person with information on the private key can control the currency.

The lack of checks and balances for new trading exchanges creates an environment for unauthorized usage. Although the failure of the largest exchange, Mt.Gox, was the biggest setback for the industry, new exchanges (such as ANX) are taking precautions and have improved validating criteria.

## Fraud

Virtual currency buying and selling is undertaken through complex infrastructure, involving several entities located across the globe. This makes it prone to fraudulent activities.

Additionally, as several investors are unaware of the virtual currency market, "Ponzi schemes" are being run to create fake investment opportunities. Moreover, virtual currency is traded over the internet between anonymous people, making it more prone to frauds.

## Unregulated Market

Virtual currency is operated and controlled by its creator without any interference by a regulatory body. This increases risks for traders and investors, as there is no security for their investment.

Additionally, governments across the globe have different opinions on the acceptance of virtual currency. The lack of regulation has resulted in the absence of a legal framework of rights and obligations of each party involved in the virtual currency market.

## Association With Criminal Enterprises

Virtual currency transactions are anonymous, which creates a window for illegal transactions. Some virtual currencies have been used for buying and selling drugs and weapons, and money laundering. This is possible, as virtual currency transactions are undertaken through the internet, resulting in easy cross-border payments and fund transfers.

## Volatility In Virtual Currency Value

Convertible virtual currencies lack intrinsic value and are priced against the US dollar, with fluctuations in prices on a daily basis. One of the challenges in the adoption of virtual currency is its perceived volatility. For instance, during March 2013–14, the value of a bitcoin varied between USD 100 and USD 1,200<sup>37</sup>. With some physical retail stores accepting bitcoins, their fluctuating value can be a challenge in large-scale acceptance by merchants. A drop in the value of virtual currency can result in losses for merchants.

<sup>37</sup><http://www.theverge.com/2012/8/27/3271637/bitcoin-savings-trust-pyramid-scheme-shuts-down>

<sup>38</sup>[http://www.dbo.ca.gov/Consumers/Advisories/Virtual\\_Currencies\\_0414.pdf](http://www.dbo.ca.gov/Consumers/Advisories/Virtual_Currencies_0414.pdf)

**Silk Road**, a hidden website designed for buying and selling illegal items, including drugs and weapons, used bitcoins for transactions. At the time of seizure, the US Justice Department found around 173,991 bitcoins worth around USD 33.6 million from the company's computer hardware.

In 2012, **Bitcoin Savings & Trust** (BS&T), a virtual currency hedge fund that promised investors high returns in exchange of their bitcoins, closed down its operations. At the time of closure, BS&T had around 500,000 bitcoins worth around USD 5.6 million. The company had promised its investors the refund of their bitcoin deposits along with high profits within a week.

# Conclusion

Virtual currency has significant potential in the increasingly digitized and virtual environment, where people and businesses operate today. As businesses continue to move from the traditional brick-and-mortar model to online portals, payment methods and systems are expected to evolve as well, creating the demand for virtual currency. While there is a major opportunity and significant potential for virtual currency to become a key disruptor, growth of the virtual currency could be restricted to certain industries over the short-to-medium term.

E-commerce and payment system providers, whose business models have the highest requirement for virtual currency, are expected to be the major growth drivers and could determine the medium's success. The adoption of virtual currency by global giants, such as Dell and Expedia, is encouraging, and would have a trickle-down effect on start-ups and venture capitalists, encouraging investments in the medium. While the banking and insurance sectors are taking small steps to adopt it, there are major challenges largely due to the absence of regulatory support. The success of virtual currency in some of these industries would, therefore, depend on the evolution of regulations to safeguard businesses against the risks associated with the medium.

Additionally, taking into consideration the acceptance on a geographic level, countries such as the US have worked towards developing regulations for a more open adoption of virtual currency. On the other hand, countries, such as China, a key part of the global economy, have banned the medium. These developments would influence the adoption of virtual currency.

Furthermore, factors, such as technology development and user acceptance, would play a key role in the adoption of the medium. Virtual currency adoption is expected to be bolstered by technological advancements and changes, such as a shift to the "side-chain" technology, a new type of blockchain supported by bitcoins<sup>1</sup>. This shift could help in mitigating risks associated with the decentralized virtual currency ecosystem.

To conclude, while virtual currency would be important for some industries, businesses and countries over the next few years, its long-term impact as a potential game changer can be debated. To a large extent, this would depend on how various industries perceive the benefits of virtual currency, and how regulations are framed to enable these businesses to maximize its potential. ■

<sup>1</sup><http://siliconangle.com/blog/2014/04/21/bitcoin-sidechains/>

## | DISCLAIMER

This report is published by Aranca, a customized research and analytics services provider to global clients.

The information contained in this document is confidential and is solely for use of those persons to whom it is addressed and may not be reproduced, further distributed to any other person or published, in whole or in part, for any purpose.

This document is based on data sources that are publicly available and are thought to be reliable. Aranca may not have verified all of this information with third parties. Neither Aranca nor its advisors, directors or employees can guarantee the accuracy, reasonableness or completeness of the information received from any sources consulted for this publication, and neither Aranca nor its advisors, directors or employees accepts any liability whatsoever (in negligence or otherwise) for any loss howsoever arising from any use of this document or its contents or otherwise arising in connection with this document.

Further, this document is not an offer to buy or sell any security, commodity or currency. This document does not provide individually tailored investment advice. It has been prepared without regard to the individual financial

circumstances and objectives of persons who receive it. The appropriateness of a particular investment or currency will depend on an investor's individual circumstances and objectives. The investments referred to in this document may not be suitable for all investors. This document is not to be relied upon and should not be used in substitution for the exercise of independent judgment.

This document may contain certain statements, estimates, and projections with respect to the anticipated future performance of securities, commodities or currencies suggested. Such statements, estimates, and projections are based on information that we consider reliable and may reflect various assumptions made concerning anticipated economic developments, which have not been independently verified and may or may not prove correct. No representation or warranty is made as to the accuracy of such statements, estimates, and projections or as to its fitness for the purpose intended and it should not be relied upon as such. Opinions expressed are our current opinions as of the date appearing on this material only and may change without notice.

© 2015, Aranca. All rights reserved.