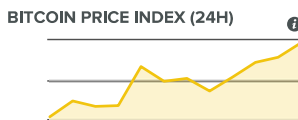




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# Google Search Study Hints at 'Shady Truth' of Bitcoin Users

Nermin Hajdarbegovic | Published on November 5, 2014 at 14:28 GMT

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Researchers at the University of Kentucky have published a new paper examining the characteristics of US bitcoin users based on an analysis of Google search data.



The paper, titled "[Characteristics of Bitcoin Users: An Analysis of Google Search Data](#)", resulted in some rather controversial conclusions about the types of people that appear to be using the digital currency. However, even the researchers admit little is known about the average bitcoin user due to the lack of systematic data collection and blockchain pseudo-anonymity.

Dr Aaron Yelowitz and Matthew Wilson, who carried out the study, also query interest does not necessarily imply active participation.

"Our research finds that two Google search terms – related to computer programming and possible illegal activity ("Silk Road") – are statistically related to search queries. However, because of the nature of any search query, it is not possible to conclusively figure out the underlying audience, or the exact composition of the audience," Yelowitz told CoinDesk.

## Who uses bitcoin?

The researchers collected [Google Trends](#) search query data from January 2011 to July 2013 for all US states, looking for terms related to bitcoin and its possible clientele.

Based on this data, the researchers constructed four possible categories of clientele for bitcoin: programming enthusiasts, speculative investors, libertarians and cybercriminals.

Illegal activity and computer programming were positively associated with bitcoin use, but there was no association for libertarian ideology or investment motives.

Previous research was also referenced, leading to the conclusion that the three main motives driving bitcoiners were curiosity, profit and political ideology. Yelowitz and Wilson warn that some of the correlations were "inherently difficult" to measure due to the sensitivity of bitcoin activity.

Yelowitz explained:

*"We do, however, end our analysis in July 2013, before Silk Road was shut down and exploded in interest among general public. Nonetheless, a variety of users – such as*

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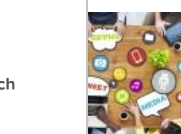
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*law enforcement, journalists, and even academics like me – also type in such terms as Silk Road or bitcoin with no intent of illegal activity. Given the paucity of data on bitcoin, I view our study as a first step – but certainly not last step – into understanding this market.”*



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## Geographic variation and price interest

In terms of regional distribution, the data showed that most bitcoin users were grouped in the states of California, Utah, Oregon, Washington, Nevada, New Hampshire and Vermont.

The data also pointed to correlations between various searches, so users with an interest in computer science or for example [Silk Road](#) were associated with interest in bitcoin. The team also included a ‘placebo clientele’ in the form of users searching for the singer [Miley Cyrus](#), with no effect on the results.

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
Computer Science	0.083 (0.066)	0.143 (0.173)	0.125 (0.073)	0.124 (0.073)	0.009 (0.029)	0.008 (0.028)	0.121 (0.059)	0.121 (0.059)	0.011 (0.027)	0.131 (0.064)	0.014 (0.030)	0.125 (0.065)
Computer Science X PRICE/100					0.208 (0.068)	0.209 (0.068)			0.205 (0.064)		0.202 (0.062)	
Silk Road	0.948 (0.374)	1.080 (0.408)	0.093 (0.051)	0.093 (0.052)	-0.007 (0.040)	-0.007 (0.040)	0.076 (0.039)	0.076 (0.040)	-0.012 (0.036)	0.105 (0.066)	0.010 (0.038)	0.088 (0.044)
Silk Road X PRICE/100					0.193 (0.101)	0.192 (0.100)			0.185 (0.097)		0.141 (0.082)	
Free Market	0.211 (0.076)	-0.172 (0.058)	0.023 (0.022)	0.023 (0.022)	-0.006 (0.022)	-0.005 (0.021)	0.031 (0.019)	0.031 (0.019)	0.003 (0.019)	0.036 (0.025)	0.004 (0.021)	0.021 (0.020)
Free Market X PRICE/100					0.043 (0.068)	0.047 (0.080)			0.030 (0.077)		-0.011 (0.073)	
Make Money	0.052 (0.089)	0.085 (0.121)	-0.004 (0.026)	-0.004 (0.026)	0.004 (0.026)	0.004 (0.025)	0.005 (0.030)	0.005 (0.029)	0.016 (0.026)	-0.041 (0.047)	0.003 (0.029)	0.006 (0.030)
Make Money X PRICE/100					-0.039 (0.070)	-0.045 (0.075)			-0.069 (0.076)		-0.095 (0.075)	
Miley Cyrus				0.021 (0.040)		0.031 (0.080)		0.015 (0.040)	0.034 (0.075)			
Miley Cyrus X PRICE/100						0.010 (0.115)			0.007 (0.101)			
Unemp. Rate							-0.121 (0.064)	-0.121 (0.064)	-0.080 (0.051)	-0.281 (0.097)	-0.203 (0.072)	-0.105 (0.063)

Notes: Sample size is 794 in columns (1)-(9), 591 in columns (10) and (11) (2012 onward), and 580 in column (12) (states with ≥20 observations). Standard errors corrected for non-nested, two-way clustering at the STATE and MONTH levels. Observations weighted by population. State and time fixed effects included in columns (3)-(12). State fixed effects and a time trend included in column (2).

Researchers also observed the effect of price swings on search volumes:

*“Profit-motivated clientele – such as speculative investors – may find bitcoin more intriguing when prices are high. However, we again observe a positive association between bitcoin interest and our two clientele groups of computer programming enthusiasts and those possibly engaged in illegal activity.”*

Earlier this year, researchers at ETH Zurich published a study into the [effect of search traffic on the price of bitcoin](#). The paper focused on feedback cycles between search traffic, public interest and the bitcoin price.

Contrary to the Kentucky team's work, they found that, rather than being a mysterious cryptocurrency for geeks or criminals, bitcoin has transformed into a much wider phenomenon.

## Libertarians and gainfully employed geeks

Yelowitz and Wilson found some evidence libertarian activity also drives interest in bitcoin, but the association appears to be limited.

Higher unemployment rates are negatively associated with interest in bitcoin. Researchers concluded that “fluctuations in computer science and illegal activity” continue to drive bitcoin interest, along with the traditional business cycle.

Contrary to many misconceptions, political and investment motives were found to be less significant than expected:

*“We find robust evidence that computer programming enthusiasts and illegal activity*

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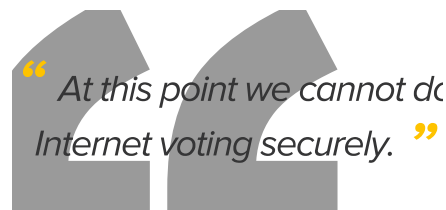
It's a decentralized digital currency

### Why Use Bitcoin?

It's fast, cheap to use, and secure

### How Can I Buy Bitcoins?

From an exchange or an individual



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drive interest in bitcoin, and find limited or no support for political and investment motives.”

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