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Bitcoin hype leads more to ask: what is blockchain?

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Blockchain reaction: Cambridge university plans to launch a course on the technology behind bitcoin

It is a technology so new that many people in finance cannot explain what it is or what it might be able to do — yet they know they might have to worry about it.

Demand from professionals for learning about blockchain, the technology that powers the virtual currency bitcoin, is so great that Cambridge university plans to offer courses to executives about its disruptive potential this year.

Blockchain has been the subject of a significant amount of hype over the past year as institutions ranging from banks, exchanges, insurers and governments have rushed to work out how blockchain could be used, by them or rivals. The technology deployed is known as a distributed database, which runs from many computers and needs no central authority.

Cambridge's Centre for Alternative Finance, based at its Judge Business School, will be the first in the UK to teach the subject, with demand coming mainly from employees of global banks.

"Nobody wants to be Kodak," says Robert Wardrop, executive director of the school's centre for alternative finance, comparing the film-maker's failure to adapt to the digitisation of photography to the change in the banking sector.

"They [bankers] all know their industry is being digitalised, how you develop a competitive response . . . that is the challenge," Mr Wardrop says. "Do you do nothing, collaborate or compete?"

Advocates believe that though blockchain is at an early stage in its development, it has the potential to disrupt many sectors. This is because it is transparent, indelible and tamper-proof and is jointly run by several parties. It could be used to keep records such as on a person's complete health or insurance history, for example. Or it could be used for cross-border clearing and settlement.

Cambridge's teaching about blockchain and digital currencies will be a core part of its educational programme on fintech, which is being developed by the Centre for Alternative Finance. Professors will also cover peer-to-peer lending, crowdfunding, alternative investments and new forms of credit analytics. The material will be included in the university's master of finance programme this summer.

The introduction of the Cambridge course comes after several US universities that had added bitcoin to their syllabuses in 2014 shifted their attention to blockchain.

David Yermack, a professor of finance at New York University's Stern School of Business, says there is great interest in the quandaries posed by emerging technology to regulators. "There are huge challenges for most governments around the world because they assume the current law will deal with a lot of blockchain issues," he says. "But it is a totally different animal."

Professor Yermack predicts that a technological evolution will shrink the size of the industry's workforce overall, but in doing so it will create many specialist tech jobs.

Stern School will teach its MBA students about digital currencies, blockchains and their growing place in the financial services industry from next spring. It also plans a course for executives. At Duke University's Fuqua School of Business, emphasis has also shifted away from bitcoin. Duke says its innovation and cryptoventures course, which is part of the MBA, has been heavily oversubscribed and is aimed at students who want to create their own blockchain start-ups. Campbell Harvey, finance professor at Fuqua, says: "Now it's the general technology called blockchain. There are apps that go with it, bitcoin is one of them."

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Universities are mostly teaching the basics of blockchain: the context of how the technology came about, its mechanics and how people are trying to commercialise and innovate with it.

Garrick Hileman, who teaches blockchain and virtual currencies at Cambridge, says that for more than two years he has seen "tremendous" interest from companies. He has been called in to teach executives informally about bitcoin and other virtual currencies such as ether, and more recently, blockchain. "Many people are still trying to understand the basics," he says.

Blockchain's reputation has suffered from its association with bitcoin, which has been tarnished by the collapse of Mt Gox — a prominent exchange, with the disappearance of $500m worth of customers' bitcoins — and the closure by US authorities of the Silk Road website, which facilitated the sale of illegal drugs.

But part of what attracted executives to the potential of distributed databases was seeing how well bitcoin performed as it attracted users around the world. Launched in 2008, bitcoin's market value now stands at more than $10bn, according to Coindesk, which tracks bitcoin data.

While the new Cambridge course will teach key concepts — such as what blockchain is and how it is being experimented with — it will not go in depth into the complex cryptographic processes that would be more suited to a computer science course.

Manfred Alfonso Dasenbrock, an executive at Brazilian co-operative Sicredi, who attended a fintech course at Cambridge in September, says: "The way we do banking business will not be the same in a few years."

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