Waiting for some change

Tim Green investigates the challenges in trying to create commercially viable micropayments – the digital equivalent of small change

Why do people buys cars on the internet but not newspaper articles? Why, after 20 years of digital life, is there no online equivalent of loose change?

"Imagine if the government removed any currency below £10," says Dominic Young, founder of UK start-up Agate. "If you wanted to buy anything in a shop for less than that, you would either have to go without or start a recurring subscription. It would be ridiculous, but it is exactly what we have done to online commerce."

Young is describing the big payments problem of the internet: how to make it easy – and commercially feasible – to charge small sums for digital content. In other words, how to do micropayments.

Agate's solution is based on a wallet that publishers can set up with just a few lines of code. The wallet tab then appears on their site or app. Users sign up with an email and password, and top up via PayPal, Apple Pay, etc. They can then pay a small fee for premium content (typically 30p), which is deducted from the wallet. After they have reached a designated ceiling set by the publisher – say, £1.50 – all content is free for the remainder of the month. The system is now live on a few UK sites, including *Popbitch*, *Reaction* and *The Cricketer*.

Agate is not the first to try this model. In the 1990s, publishers looked forward to a future in which consumers would – at a click – buy an interesting article for pennies. They were encouraged by gurus such as Nicholas Negroponte, head of the MIT Media Laboratory, who predicted in 1998: "You are going to see within the next year an extraordinary movement on the web of systems for micropayment." He was right. A flurry of start-ups appeared: Millicent, Cybercoin, Beenz, DigiCash, BarclayCoin, Flooz, Peppercoin and more.

They all failed. Why? Experts pointed to a combination of poor business model and poor user interface. These services demanded too high a revenue share, were not interoperable, and usually re-directed users to unfamiliar payment screens. In a 2003 essay, the US academic Clay Shirky outlined a more subtle psychological barrier: mental transaction costs. More simply, micropayments made people think too much.

He wrote: "The act of buying anything creates mental transaction costs – the energy required to decide whether something is worth buying or not. It is easy to think a newspaper is worth a dollar, but is each article worth half a penny? Is each word worth a thousandth of a penny?"

Many people accept this argument but still believe the internet needs its own version of "loose change". Tibit, a UK start-up, tried to solve the conundrum by letting users, rather than publishers, decide on the sum to spend. Users would create a Tibit wallet and gift a set sum – say 10p – to any participating content creator.

Justin Maxwell, founder of Tibit, says the idea was to remove mental costs and also to take the price tag out of the process. "On the internet, everything has a price displayed in front of it," he says. "It is not the case in a shop when you are buying a bar of chocolate or something. That price tag is a barrier."

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Tibit did not succeed but Maxwell still believes in its proposition and has maintained the patent on his user-defined pricing idea. He says the company needed more marketing budget to push past the negative perception of micropayments among publishers. Outside the UK, a few companies do have access to such budgets, although most are pursuing a Netflix-style subscription model, in addition to micropayments. There is Australia's Inkle and the Netherlands' Blendle, which each offer subscriptions for curated content from premium publications.

But what about the world's payment giants? Surely they have the resources to build a global micropayments platform? PayPal, arguably the world leader in digital wallets, does offer a price structure for very small transactions. Its standard terms are 3.4 per cent plus 20p, but for transactions below £5, it offers 5 per cent plus 5p. That is better but still unsuitable for those charging 10p.

PayPal runs on card rails – it pays interchange fees to companies such as Visa and Mastercard. None of the big card companies has a business model built around dealing with

tiny sums, nor an incentive to develop one. Arguably, open banking could change that because consumers will be able to authorise payments directly from their bank account via third-party payment providers, which PayPal already offers.

But there is still a question mark over the business model for such providers. How will they make money? Another problem is that people are likely to want a one-click, pay-everywhere solution, which demands scale. As Young argues: "The mechanics of collecting money is not the barrier. It is the need to have no log-in, to have transportability across different sites, and a network effect." The card giants seem happy to let others rise to these challenges. This is understandable, given that they control the payment networks. Interestingly, Agate uses PayPal's subsidiary, Braintree, to power its service.

Perhaps we should look to China, where WeChat Pay and Alipay have created flourishing ecosystems based on small payments. Alipay came first by building on an escrow service for online purchases. Both companies benefit from enormous scale: Alipay reportedly had more than 1bn users at the start of 2019. As they operate via a central clearer, it costs them virtually nothing to process a payment. This allows them to charge a maximum of 0.25 per cent for domestic transactions.

This fee structure, combined with a content ecosystem based around chat applications on smartphones, has created an economy in which users "tip" their favourite content creators. According to the China Academy of Information and Communications Technology, 10.7 per cent of WeChat's users have used the tip feature. Can a similar "over the top" entity emerge in the West? Some observers think Apple Cash could be it. When Apple announced its new credit card in March, it confirmed that users will receive cashback on every purchase. The company will deposit the sum as "daily cash" into their Apple Pay balance.

Payments analyst Brian Roemmele believes the impact will be profound. Consider an app purchase. Apple incurs about 13 cent payment processing fees on the 99 cent transaction. If the user is induced to use Apple Pay "daily cash" to pay, Apple pays nothing. It still incurs the 3 per cent cost of the cashback on Apple products but it clearly cuts its costs each time compared with card-intermediated sales. That money, in principle, could be used to boost Apple's revenues and undercut the competition. (Cashback on non-Apple items bought using Apple Pay is 2 per cent and on other items bought using the plastic Apple card it is 1 per cent.).

Roemmele asserts that Apple will not be the only beneficiary. He repeats the utopian argument about micropayments shifting the online world away from clickbait, fake news and all the other regrettable by-products of an economy built on advertising. This "new money" will form the basis of a system whereby nano-transactions (below 1 cent) and micro-transactions (below $1) will become not only popular, they will "remake the internet", he says.

Apple Cash offers one possible route for this optimistic vision, but there are others. Many are built around cryptocurrency. Take the privacy-focused web browser company Brave. It test-launched its own Ethereum-based digital currency, the Basic Attention Token (Bat), in June 2017. Users can buy or earn Bat (by watching ads), which they keep in a dedicated wallet inside the Brave browser. They can use the tokens to reward their favourite content creators or spend on premium content and services.

> *People want to pay for good products but don't want to make the commitment of a subscription*

Another company, SatoshiPay, is trying to build something even more ambitious: a crypto-based wallet that works on any website. Users pay into its wallet via Visa or Mastercard, and SatoshiPay converts the balance into SatoshiPay credits (called Stellar Lumens, since the service uses the Stellar blockchain). The wallet lives in the browser, so users can spend credits with no friction at any participating site. To date, they include The Register and City AM.

Twenty years after the web went mainstream, it seems bizarre that there is still no established digital equivalent of "loose change". It is such a simple idea. Which is why, for all the failures, there are still so many diverse organisations trying to "solve" it. "A huge middle majority of people want to pay for good products but don't want to make the commitment of a subscription," says Young. "They want payments as they are in the physical world: casual, promiscuous, frequent, low price. Publishers already recognise that." The question is whether payment companies need to. ■

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