



VIRTUAL ACCOUNTS

A Fintech love affair

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INTRODUCTION

One of Fintech's more in-vogue products of the last 5 years is Virtual Accounts.

Virtual Accounts go by a lot of different terms, vIBANS, virtual ledgers, named accounts, sub-accounts, ZBAs and quite a few more. Call them whatever you like (the industry sure does) but under no circumstances are you to call them **bank** accounts!

In this white paper we are going to discuss their origins, their use, their context in the modern fintech landscape and maybe even try to guess at their future. We'll look at:

1. What actually are they?
2. What do they do?
3. Why are they here? Originally.
4. Why are they **really** here?
5. Who are they for?
6. What's virtual about them?
7. Come to think about it, what is physical about my "normal" bank account?
8. What is the difference between the two?
9. Why does Fintech love them?
10. Why is half of Fintech trying to build them?
11. Why do so few banks offer them?
12. Do I even **need** a Bank to offer them?
13. Does it matter what tech I use if I want to build them?
14. Where can I get them?
15. How can I get them?
16. What to look out for when sourcing them
17. What do banks think about them?
18. What do the regulators think?
19. What does the future hold for them?

THE AUTHOR

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1. WHAT ACTUALLY ARE VIRTUAL ACCOUNTS?

A virtual account in most cases looks and operates just like a normal bank account. Depending upon which payment scheme and bank they are housed they can have a standard BIC and IBAN just like a real bank account or if they are piped into a local scheme, they can have the corresponding jurisdictional format. In the US for example it's possible to have virtual accounts tied to a routing number with their own unique account number, whereas, in the UK you get a sort code and account number.

From a transactional perspective, they also function just like a real account. They can receive funds. And in some cases, they are also able to send funds. So why virtual?

Well, a 'virtual' account, at is nothing more than a conduit.

If you are knowledgeable in Fintech, you might disagree as follows:

"What!?" you exclaim. "**No, it's not**" you boom in a surprisingly passionate outburst! (we are after all talking about a niche financial product. No need to be so dramatic...

And if you aren't knowledgeable in Fintech you probably didn't get this far down.

Half of you will be scratching your heads in confusion. The other half will be laughing dismissively at my, "oh so shallow" understanding of a complex financial instrument and are probably ready to close this tab right now. A third half of you will have been bored senseless and gone back to a more interesting 11:FS article by now. And the purist fourth half of you will be wanting to read on in the hopes of scooping up ammo as you go to hang, draw and **quarter** me. (...ugh Dad joke.)

Irrational fractions aside, let's get on with explaining this product.

Tangent Incoming...

So - why a conduit? Well, let's take a peek at what a prescriptive linguist's first port of call would be when considering how to understand and define any word - the Oxford English Dictionary.

Conduit:

/ˈkɒndʒʊt, ˈkɒndɪt/

1. noun

a channel for conveying water or other fluid.

"nearby springs supplied the conduit which ran into the brewery"

I think this description works on different levels. Firstly - the core description is that it's a 'channel', in other words a mechanism for transport as opposed to storage. Equally it works on another level, the channelling of fluid, namely **water**.

The analogous relationship between money and water is an oft used one. For example, if one is "liquid" then they have readily accessible cash. The term "float" is typically associated with surplus capital. Cash "flow" and payment "flows" foster images of rivers and other bodies of moving water. We have income 'streams' and notional 'pooling'. Financial connectivity is often termed as 'plumbing'. Indeed, even

the absence of water and its phraseology has parallels with economics and money. As a young whippersnapper in the industry, for example, I'd often have my commission 'dry up.' Oh yeah, I nearly forgot, we also use the word "Bank" for where we store money... "Bank", the geographic reference for terrain which literally means 'the land alongside water.'

Tangent Outgoing

OK so why conduits?

The simplest reason for the term is that these accounts do not store funds, they do not hold balances. These accounts are purely routing points. Channelling systems for money to flow in though and out of. Sure a Fintech may present its customer with a snappy UI that makes it look and feel just like a normal account, but pop the hood, shine a light on the tech and you'd see that these virtual accounts are just tributary channels to the physical accounts that house them. That's one of the many reasons why this new term of E-Money has come about and indeed why E-Money licences are now offered by regulators (as opposed to Authorised Payment Institution licences). To that effect, you cannot have an isolated virtual account, it is always tied to a master or omnibus account.

To look at them another way, they are a lot like email and phone systems. Most of us are part of a variety of email groups. And if somebody emails one of those groups, they still come to you. Email support@xxx.com and you receive it. Email sales@xxx.com and you'll get it. The purpose of the different emails is to help orchestrate and manage disparate enquiries, so you know how to service them. Virtual Accounts aren't entirely different.

At this point, if you aren't familiar with their myriad applications you are probably thinking virtual accounts are an unnecessary invention in banking with fringe value at best. And in most cases, you'd be right... But not all.

2. WHAT DO THEY DO?

Well in a prior life I would have given you the big sales pitch here. But that's not what this blog is about. Today, you'll get the reductionist description.

They have two functions: the first is that they serve (just like a regular bank account) as a referencing system. The second (and increasingly more popular) function is that they enable editing of the sender/receiver name on an individual transaction.

a. Referencing:

At its simplest, a bank account number is just an identifier. This identifier, given to each and every customer ensures that a bank has no two customers using identical credentials or accounts. Thus, when the bank receives a credit to its network with the appropriate reference identifier it understands who that money is for. Names alone are obviously not unique enough. (How many Joan Smiths, or Shahrukh Khans are there in the world for example). The bank account number is a simple and efficient way to eliminate misallocation of funds and ensure total control of money flow in and out of a bank.

Virtual accounts allow the bank to give this same level of control to their customers for precisely the same reasons effectively daisy chaining the functionality of account creation. Where a Bank previously would issue one account per customer, now they can give a range of account numbers to a customer for them to reissue with their own decisioning.

b) Account sender/receiver editing.

Virtual Accounts also have an important functionality beyond referencing. Increasingly they are being employed as a payment function too.

When a client makes a payment, it would normally follow that the beneficiary of said payment would view on their bank statement the name of the company or individual that sent the money. If for example, I sent you 10 bucks, your bank would show you that Daniel sent you 10 bucks. Virtual IBANs allow the decoupling of that logic. Using Virtual Accounts, the sending party (be they a Bank or a Non-Bank Financial Institution ((NBFI)) are able to attach a separate sender identity to a transaction before it is distributed to the payment scheme. This means the recipient does not see the bank account holder name of the sender, instead they see the name that was supplied at the virtual account level. In the same situation above, Daniel would be able to alter the sending information to display another name so that on your bank statement. You can probably understand how this is quite a powerful tool already...

Similarly, if someone is sending funds received into a virtual account, for all intents and purposes that person believes they have simply done another bank transfer to a normal account. When in reality they have actually sent the funds to an unseen third party. A third party who is supplying a virtual account to the intended recipient and permitting them to display it as their own.

It is this collection solution that has fuelled major growth in niche sectors of fintech - particularly FX. If you are a Foreign Exchange payments business with thousands of clients, it's likely you receive a LOT of inbounds payments. Deploying virtual accounts for each customer helps to isolate each of the credits and make them much more manageable than having thousands of transactions pour uncontrollably into a single account. However, there is a much more powerful application for these accounts too. Namely that customers are now able to use the service for more than just better exchange rates.

I'll give examples of the problems that these functions solve and how later.

Focussing back on their use as a reference tool for a moment, you might be thinking, 'what is wrong with a plain old run of the mill reference.' I mean, it's worked for some of the largest institutions in history. You don't need a virtual account if you just go to the effort of putting a reference on your payment. To answer this, it's important to look at some of the challenges large corporates face when using a bank. What, for instance, happens when a Bank has customers who themselves receive thousands of payments per day from many different accounts.

Traditionally this is where reference numbers have done a wonderful job. You'll all at some point or another have placed a reference on a payment. Maybe it was when you were paying your taxes and the government needed to make it easier to identify that you've paid. Maybe it was the time you paid your gas bill or the time you put a deposit down on your car. In each case the recipient of your hard-won income will ask you to put a reference on the payment to help them identify your money from the swathes of other people they are taking payment from.

But note earlier that I said bank accounts **are** references. Why then is there any difference? Well, the answer to that is a simple one. If you type a wrong digit on a bank account number, the most likely result will be that the payment will fail immediately. So, whilst you might be out of patience, you are less likely to be out of pocket.

(Side Note: The algorithms banks use to generate account numbers these days are sufficiently mature to avoid the event of one miskey resulting in a successful transfer to an unintended recipient. In days gone by it was not uncommon for account numbers to be

*generated on a purely sequential basis meaning lots of mistakenly transferred funds. Sequentially generated account numbers meant that a single miskey ((especially on the final digit)) would often result in a successful validation of account existence but much more crucially the funds would arrive to entirely the wrong person. These days banks have more sophisticated systems, but it still does happen. In the UK and Europe there are even initiatives to verify the account owner **before** funds are even sent!)*

The same cannot be said for references. One miskey of a reference on say...your gas bill and unfortunately your payment won't simply fail and ask for resubmission, it will indeed proceed. And before you know it, you've either sent money to the gas company and they can't work out why, or worse, you've paid for somebody (hopefully mine) else's bill.

Naturally you probably didn't realise the reference was incorrect or you wouldn't have pressed 'send'.

So for the next month or so, you are going about your daily life in blissful ignorance, oblivious to the fact that you might have just gotten a stain on your credit rating or worse your gas is about to shut off. Just to make sure, you even checked your bank statement the next day and you saw the funds had left the account successfully. Then all of a sudden you get an unpleasant letter in the mail (or these days an email) chasing you for payment when you are sure you'd already sent it.

Consider this simple mistake, playing over hundreds if not thousands of times every month for businesses all over the world. Sure, if you have that many customers you probably have the team to deal with it, but it's not a problem that should happen in the first place. It creates terrible user experience, slows growth, compromises product, and creates cost and process that reduces productivity (not to mention morale).

All that is to say, there must be a better way...

3. WHY ARE THEY HERE?

Like most inventions in this world, virtual accounts were built with a specific use in mind. The use case being to solve the above issue and to help businesses reduce the number of errors and pain caused by said errors. Virtual accounts were designed to give businesses some simple benefits. Namely:

- To reduce (or *rationalise* if you are a treasurer) the number of bank accounts you had to maintain
- To simplify cash management and reconciliation
- And to provide the same level of control and reporting as traditional accounts

Let me give you a real-life example of only one of the numerous times it has happened to my business.

The following happened to my previous venture a few of years ago. We were growing quickly and in need of some office supplies. Most staff preferred to use Mac instead of Microsoft, so we placed an order for around 10 MacBooks.

As a Fintech player, we tended to maintain a lot of balances with partner Fintechs. CurrencyCloud was one such partner, and for operational convenience, we settled our outstanding bill with Apple through our CurrencyCloud account. We entered the payment instructions and (correctly) applied our apple corporate account reference number and off the payment went.

CurrencyCloud generated a proof of payment document for us later that day just for certainty and that's the last we thought about it... Until a few weeks later we received an email from Apple.

"Funds not received, please pay asap"

I called them up and explained we absolutely had sent the funds. I told them the date and the amount to the penny.

"We do not have a record of that on our system"

I emailed them the proof of payment and the MT103.

"We do not have a record of that on our system"

I assured them we had sent payment and requested to speak to a manager. After about a week I spoke to a manager and went through the same process. I explained that we had made a payment on X date for X amount and with XXX reference. Could you please check for those details only? Their response?

"Why?"

"Because I think you are simply looking at our corporate account record rather than checking your bank statement."

"We don't have access to our bank statement, we are the customer service team"

On and on this went until eventually I realised that Apple being Apple, probably have a corporate account for 75% of the entire UK corporate market. So, I changed tack and said,

"I know you can't talk to me about other customers, but if you could please check your system to see if you have a customer called CurrencyCloud and if you do I am confident you will find that you have received a payment on X date for X amount and with XXX reference. Moreover, that will not be their corporate reference, it will be ours"

"I cannot comment on other customer information, but I will revert and get back to you."

"CurrencyCloud", I continued, "are a Payment Service Provider, and the very nature of their business is that they send payments on behalf of other companies. Doubtless they will have an account with Apple too and what has likely happened is the accounts receivable team saw the sender name as CurrencyCloud, never bothered to check the reference and simply applied it to their account."

In a week I was called back by an Apple Manager. It went largely like this:

"I can neither confirm nor deny that we received a payment from CurrencyCloud but if you do have a relationship with them, please get them to write on letter headed paper a message to confirm you are their client and that payment of X on X with XXX reference was intentional and meant for X company."

After another week we had resolved this and finally the credit was applied to our account (doubtless causing CurrencyCloud some of their own reconciliation issues later).

The process took 6 weeks from beginning to end to resolve. On man-hours alone, it probably cost both us and Apple the same amount as the initial purchase to resolve. Going through

layers of management and approvals and pulling in three businesses distracting them from their core activities.

And all of the above because of a single error caused by a manual process that relied entirely on an arbitrary reference.

Now just imagine if Apple had the technology (which doubtless they could implement) to give every single customer their own unique virtual account number. In most countries the standard digit count for an account number is 8 meaning apple could offer 100,000,000 million unique account numbers (per routing/sort code).

This would enable a system where each Apple customer no longer uses a superficial reference number when making a payment, instead they simply pay (in the same normal way) to the account number presented on the invoice.

This removes any possibility for a misallocation of funds. This removes any uncertainty around purpose of payment or identity of sender. It removes the need for manual intervention and fund tracing. For Apple, it empowers them to know if a customer has paid, simply by checking whether the virtual account they have for the customer in question has had any funds **pass through it**. And this is a very important detail. Virtual Accounts allow funds to pass through them. They are *conduits* for fund transmission. It wouldn't be very helpful if Apple had to go and check millions of virtual accounts every day, and then transfer the funds to a central operational account. The benefits of reconciliation would be dwarfed by the cost of operation. But to be able to have millions of payments everyday collected in separate unique virtual accounts and to have those payments automatically land in a house account - now that **is** powerful.

With this kind of technology, Apple (or anyone for that matter) could dramatically reduce the cost of running an AR team. It could also drastically improve customer service and user experience, cutting down on invoice cycles and disputes. It would, at a stroke, remove 90% of the manual errors that create the need for heavily resourced and non-revenue generating bureaucratic environments.

Had virtual accounts been deployed, the issue that I went to great length above to describe for you, would never have happened. It wouldn't matter what reference was put on. It wouldn't have mattered that CurrencyCloud made the payment on our behalf. All that would have mattered was the amount of money and the virtual account number that was on the invoice.

As powerful a solution as the above is - that's not what's driving their adoption in Fintech. There is something much less marginal at play here.

4. WHY ARE THEY REALLY HERE?

Well for starters they are fantastically convenient in a number of instances. Most commonly a virtual account is used as a collection method. A way of helping customers to receive funds more easily or at lower cost, often (but not always) from geographies or platforms where they have a commercial presence but not a banking one.

As Jack White once said, I've said it once before, but it bears repeating now: funds that are credited to a virtual account never actually reside there. Rather, once the credit has occurred the funds are instantly moved to a separate account. The virtual account number in this sense is simply forwarding/redirecting the funds to another account. This other account is a 'real' account to which the virtual account is attached. A kind of "Omnibus" account that houses the virtual accounts within.

Conversely (and not many providers offer this) you can also use virtual IBANs to send funds out. However, the same happens here in reverse. Upon initiating the debit from the virtual account, what follows in reality is the omnibus account pulls funds to support the transaction. And those funds are routed through the virtual account before being released to a third party. Simple.

This type of solution has exploded largely due to ecommerce. Ecommerce has meant even the smallest of businesses can sell internationally. And with virtual accounts, now these small businesses can have accounts internationally too. If you are a small American business selling in Japan for example, this solution is perfect. 10 years ago, a small business, receiving a foreign bank wire was just too complicated, slow and costly to make it worth anyone's time. With virtual accounts, the SME can have a local account IN Japan. Now they can collect payment via wire as if they were a Japanese business. Fintech is empowering businesses to play globally and compete locally.

So, as we have discussed, virtual account functionality gives a Fintech the same transactional functionality of a bank. This has always been the glass ceiling of Fintech - the requirement for a bank to exist to have a viable business model.

Prior to this, Fintechs have focussed on super niche offerings that fix one important yet narrow problem that an industry, business or individual faces. It has allowed any given Fintech a deep penetration into a singular market. But the very focus that allows them to be so successful also impairs their ability to create sticky customers. When you focus on a single problem, a customer comes to you for a single need. If a client's need is singular, it becomes very challenging to grow with them. And If you can't grow with them, you have to maximise your revenue with the only product that you have. This has been Fintechs greatest challenge. The race to the bottom. Retaining client's long term with a singular solution is a major challenge. Eventually the market catches up.

So why are they really here? Well, if you can give a customer an account to receive funds into, AND pay funds out from, all in their own name, well, you might not be allowed to call them bank accounts, but your customer sure will.

Virtual accounts then, transition Fintech from the niche to board. From the margin to the mainstream. There is no market you can't access when you deploy them; the likes of TransferWise, Revolut and other unicorns, saw this early and have flourished because of it. Fintech has gobbled this up and is riding heavily on the coattails of giants like Amazon and Alipay in the march toward globalisation.

5. WHO ARE THEY FOR?

Looking at the original purpose of them it's clear they are for businesses with large cash balances, large numbers of both suppliers and customers and a highly staffed finance function. In short, a company big enough to operate a sizable AR team or maybe even a centralised treasury.

But in reality, the functionality offers value far beyond this niche. And it's this unanticipated value that has brought Fintech to the table. Fintechs want to offer this solution to:

SMEs have shown as much appetite as any other sector in gaining access to them. As much as a means of handling the globalisation of their respective industries as possible. If you own a small business and have a customer in another country, you want to be able to offer that customer a financial experience they are familiar with. Virtual accounts allow you to issue accounts on payment rails that you otherwise wouldn't be able to access.

Retail consumers. More recently we have seen the retail market begin to adopt them. The idea of a global traveller and the need for an account without borders. As globalization moves ahead, so too does the need for an anything anywhere solution. The Pandemic will have gone some way to dampen the flames of growth for this section. But as Jeff Goldblum says "life finds a way."

Other Fintechs. Possibly the most explosive growth is actually on the supplier side. APIs are enabling Fintechs to become hyper-specialists in singular domains without suffering through lopsided value propositions. They can do this because APIs allow them to get the best in class solutions quickly and easily from another provider. Revolut are masters of this having aggregated some of the best providers in the market into their own ecosystem. This maturity of API means that increasingly, Fintechs are the purveyors and consumers of other Fintech vIBAN solutions.

6. WHAT'S VIRTUAL ABOUT THEM?

The main reason they are regarded as virtual accounts is the very simple fact that they do not hold balances. That is to say, any funds that are received via virtual account number simply get routed to the master account in which they are housed. That also means there is no separation (or segregation) of funds.

The naming convention 'virtual' is also in part the result of a fallout from a discussion regulators who want purveyors of said accounts to reinforce the fact that the accounts are **not bank accounts** and equally to convey to the end user that they are not necessarily working with banks just because they have the account.

Naturally there is an important consideration to be taken on consumer behaviour and expectation when they hear the word bank (RBS aside). When a consumer hears the word bank it conjures up images of stoicism, and reliability, an everlasting security and by association any account claiming to be a bank account stirs up similar images for the consumer.

Basically the point is by calling them bank accounts, the provider is unfairly giving the consumer the impression that the funds are backed and protected by a bank (along with the regulatory body protections that go along with it.) That's simply not the case, so whilst they are account numbers and serve a purpose often strikingly similar to a real bank account, they have nuanced but fundamental differences in function, security and indeed purpose.

7. WHAT'S PHYSICAL ABOUT MY 'NORMAL' ACCOUNT?

In the literal sense nothing. It's not like if you were a bank robber you would bust into the poorly guarded regional community bank branch downtown, whip out your shockingly realistic looking glock 19 replica water pistol, point it at the head of some unexpected clerk and utter (menacingly),

"Give me your bank accounts. Or else"

No indeed, there is even an argument to be made that 'real' bank accounts are simply virtual accounts themselves. Virtual accounts that are one step closer to the ultimate virtual account - the Central Bank. But the principal difference is that "Physical, Non-Virtual" Accounts hold balances (that is to say they act as a kind of terminal in that they are the last stop on a journey of funds transmission. They also generally have the consumer protections associated with those held balances in whatever region they were issued. Additionally, the balances that reside on those accounts are recognised by law as money. Whereas a

payment service provider issuing virtual accounts would have to recognise those funds (at least in Europe) as E-Money.

8. WHAT'S THE DIFFERENCE BETWEEN THE TWO?

Well, the main differences are in protections, licence to issue and auxiliary products.

Focussing on protection for a second:

In the UK for example, the banking authorities mandate assurances that an account which has balances of (up to) £85,000 will be protected in the event of an institution failing. If you have £85,000 in a non-virtual bank account - and the bank goes bust - that 85K is protected because the money was 'really' in that account.

Conversely, if an NBFIs has issued you a virtual account and you have equivalent funds displayed as an E-money balance, you wouldn't have the same security. Although I hasten to add that the majority of NBFIs have rigorous safeguarding policies which ring fence client funds for protection under any eventuality. And this safeguarding has no upper bound cap whereas a bank account does!

Regulators in the UK and Europe also do not deem these types of accounts to be compliant with rules around safeguarding either. Although as their adoption and popularity continues to rise, I suspect a review of the framework and lens with which these are viewed may need to occur.

Secondly, only Banks have to date (although this is changing) been allowed to issue accounts known as 'bank accounts'. Accounts from NBFIs typically have to kick out the word 'bank' and replace it with some snazzy word like 'spark' or 'borderless' or 'super-mega-amazing'

Virtual Accounts typically don't come with the functionality to go into negative balance (thus conduits). So, they have limited application for credit issuance.

In a nutshell - for money movement - they work just fine - for other needs - some 'jiggery pokery' may be required.

9. WHY DOES FINTECH LOVE THEM?

On this count at least, there is an overarching theme that unites the hyper-specialistic spectrum of Fintech. Virtual Accounts a sticky customer maketh.

Think about it, pre virtual account Fintech solutions were either a last mile or a first mile solution. In my case as a young FX broker (whilst getting my ears burnt off day after day during "power hour" by some callous and occasionally creative insults) it became clear to me that a deliverable FX broker's value to the customer was extremely limited.

Whilst the solution had an obvious benefit (saving money), from the client perspective it was clearly an after-thought service. Most customers were importers/exporters and I realised we were only helping them with the very last piece of the puzzle, payment for stock. It occurred to me then that somebody else was probably making money helping to collect payment for the selling of said stock. Still another person was probably making money giving these guys credit to buy the stock and probably another insuring that stock against damage/loss. In the middle of it all was a bank realising value every step of the way.

I also came to understand that the rise of Fintech meant each of these services was less and less likely to be provided by the principal banking partner of the client. Why for example didn't my client use his own bank to convert the funds and make the payment to his supplier. Answer? We offered better rates. Why then did the customer not use his bank's merchant acquiring solution? Answer the Fintech acquirer offered a more customisable checkout experience and better reporting on settlements. Indeed, why did the customer not take credit from his bank who have total visibility on his cash flow (being that they are after all his bank! Well, the specialist lending Fintech had invested more time in understanding the customer, were better able to predict default likelihood and were able to offer a larger line of credit.

Two things to understand here. Number one is that in each aspect of a bank's existing offering, there is a specialist that does it better. Number two is that even with the above being true - the main banking partner still is a predicator (*stretching the grammatical function of that word I think*) of the other three. In the case of the FX Broker, they cannot work their magic until they have received funds FROM THE BANK, In case of the acquirer, they are unable to complete the last mile (and thus generate revenue) until they have sent settlement TO THE BANK. And in the case of a lender, they cannot even make decisions without having to some extent visibility over account activity and more so, they will not be able to make the loan itself if the client doesn't have... you guessed it - A BANK account.

So, you see in each circumstance the bank account is the nexus of all points. Without it, none of the others can function. Equally, as the bank offers all these services, it gives the bank a perpetual opportunity to take *back* a few slices of the cake. I can tell you first hand, every time a client would send funds to an account in the name of an FX broker, they would get a call from their relationship manager at the bank asking "why?" and "maybe we can offer a better price 'just this once'".

Why WOULDN'T a Fintech want to eliminate that huge ever-present threat to its business model. As a Fintech, being able to offer virtual accounts to your customer not only adds a huge amount of value to your offering, but also it helps to dissolve that perpetual dependency of the Bank itself. Lenders can lend to an account they own. FX Brokers have funds on account **before** offering a rate. Acquirers will never not have an account to settle to. Everywhere in Fintech, there is an added-value solution waiting to be implemented by doing so.

10. WHY IS HALF OF FINTECH TRYING TO BUILD THEM?

The initial explosion in virtual account popularity really began as a fight over FX Revenues. Merchants on international markets (Amazon being the obvious one) were being subjected to extremely high rates of exchange for collecting foreign revenues. Amazon generally stipulates that only merchants with a bank account 'in country' may collect revenues in the currency of the original sale. Deliverable FX brokerages responded by partnering with banks in each country to offer 'virtual accounts' to said merchants, thereby unlocking the ability for merchants to collect multi-currency sales without having to pay huge fees to get it all converted. This over time transformed Foreign Exchange from a Financial Service to a Financial technology and virtual accounts have continued to proliferate across the spectrum of Fintech ever since.

I'll attempt to give a little more colour to some specific use cases. Virtual Accounts give the Fintechs the capacity to offer a much greater client experience and become a larger part of the value chain than they initially specialised in. Think about it, the majority of Fintechs are specialists in one aspect of what a bank does. Lenders are great at lending. PSPs are great at money transfers. Acquirers and gateways are great at processing card transactions. FX brokers are great at currency exchange. Remitters are great at cross border settlement.

What one product amplifies **all** of these services? Accounts! But if you don't have a bank charter (which is really hard to get) then there is now a quick and easy (relatively)

Are you a:

1. **Lender?** Wouldn't it be great if you could issue an account to the lendee? 1. You gain visibility over what happens with the funds. 2. You can gain additional data over time on the use of the account (for subsequent loans decisions) 3. Not everyone who needs a loan has a bank account. This problem can be eliminated immediately.
2. **PSPs?** You get a stickier customer by offering an account with which they can operate in your ecosystem as opposed to their normal bank.
3. **Acquirer?** Post settlement the acquirer's job is done. Imagine if they could offer an account to receive settlements into? Now they have extended their presence in the value chain from collection **only** to collection and operation.
4. **FX brokers?** FX Brokers are the high margin afterthought of the payment world. With virtual accounts they can remonetise their existing B2B client and turn what has traditionally been an outbound international wire solution into an international collection method. We have already seen massive inroads from the FX world into the 'bank lite' scene. Just see the likes of WorldFirst, Payoneer and OFX.
5. **Remitters?** Remitters survive on keeping things low cost. Being able to use virtual accounts in new corridors shaves off precious SWIFT fees. (not to mention sometimes it becomes their main bank account!) Whatever bracket you choose to put TransferWise in, they are definitely leveraging growth off the technology.
6. **Neo-Bank?** These days, many neo-banks or Emoney institutions perceived to be NeoBanks find that virtual accounts offer them a way to cultivate a perception of being 'bank-like' through the issuance of virtual accounts. Many Fintechs today who have made the leap to apply to be a fully-fledged credit institution started off with a prepaid card tied to a virtual account. These accounts offer speed-to-market and control of user perception to see if the model can be validated. If so, why not go get a full banking licence? The most obvious example here would be Revolut.

11. WHY DO SO FEW BANKS OFFER THEM?

Opportunity size - Well the answer to this differs from bank to bank and geography to geography. In some instances, there just isn't a demand for the service, either directly from a bank's own clients, or from their Fintech channel relationships.

Tech Capability - In other cases it's about technical capacity. The issuance of virtual accounts adds a new layer of reconciliation complexity from the vendor's perspective. Even if the bank has the appetite to launch it as a feature, often the core underpinning the institution is not able to recognise the issuance of account numbers in a hierarchical manner. As a rule, if they are running a core older than 20 years and regionally limited, they may not be able to offer the solution technically.

Risk perception - This is generally the big one. Sometimes banks can issue them but choose not to - largely dependent on which sector/industry a customer operates in. In many cases banks feel that these accounts are tantamount to giving agency over their banking rails. Effectively handing the reins of their entire banking licence over to a third party; understandably banks might not be happy with the risk that may present.

Competition - Why would a bank want you standing in the way of them and their customer. It's a decreasingly common idea as the world moves into a new era of warehouse banking. Nonetheless from a business model perspective it makes total sense for a bank to want to weigh up the pros and cons of having a middleman.

12. DO I EVEN NEED A BANK TO OFFER THEM?

Well, yes and no. But mainly yes.

As regulators increasingly look to democratise the banking and payments landscape with Directives such as PSD2 and its resultant OpenBanking initiative, so too are the regulators intent on driving down the barriers to entry in all forms of banking. Across the world there have been a spate of Neo-Banks popping up as the result of this, but interestingly we have also seen a bypassing of traditional models where Fintechs themselves are directly integrating onto the domestic schemes to instruct payments themselves. We are seeing this in Europe particularly where Brexit has forced a large number of Fintechs and banks alike to go and get regulated in both the UK and Europe. Both of these regions offer Payment Service Providers and NBFIs a way to integrate directly onto the schemes without using a traditional bank. However, the argument gets a bit meta here for two reasons.

Firstly, even if you bypass a clearing bank, you still are connecting into a bank. Only this one is the central bank of the country and its corresponding schema.

Secondly, bypassing a bank is 9 times out of 10 a pretty stupid thing to do. There are circumstances where it isn't, but you need to have some serious economies of scale for this.

This is where we can get a bit complicated and I'll dig deeper in another blog, but for now I'll touch the important points. One of the primary functions a bank offers an economy, is a large pool of resources (funds) that are sat on account at any one time. When you connect directly to a payment network, there is (usually) a requirement from the scheme that you prefund the system with a multiple (usually 5 days' worth to cover bank holidays) of your average daily transaction flow). That way, any payments that occur on the scheme do not get held up (thereby damaging its integrity) by not having funds on account.

Banks are virtually the only entities that have enough spare capital to front up this funding. As a Fintech or start up, there are a million more valuable things you could do with your precious capital than sitting it at the Bank of England or other entity so your payments can arrive a few seconds earlier. Thus, even if you directly integrate, most NBFIs go the route of Directly Connected Non-Settling Participants (DCNSPs). This is where the participant can send messages directly to the scheme (instead of to their bank and then the bank to the scheme) but without the need to front up the capital to facilitate it.

That is a long way of saying, if you want to directly connect so that you can issue IBANs, it usually means you need a partner bank to connect through. So, the answer is - in 99.99% of circumstances, yes you need a bank to be able to offer them.

Just to underline the matter - many schemes use different schemes to settle them. My favourite example of this is the UK Fast payments scheme. If you want to top up your balance here - you have to send the payment via an entirely different mechanism - CHAPS. So, if you want to be fully independent, you only have to do almost double the work!

So yes, you need banks to access these schemes - for Account issuance and payments.

13. DOES IT MATTER WHAT TECH I USE IF I WANT TO OPERATE THEM?

Yes, it does. There are a number of ways you can look to establish a virtual account solution.

There is the Buy vs Build argument. Then there is white labelling (usually using an established Fintech) or taking a bank's existing offering and taking that to market in a pseudo reseller model.

Buying is one option. It might sound counterintuitive but if you have 0 experience building this type of product then buying is simply a cheaper go to market strategy than building. Buying can usually be structured over a longer period of time and the cost to build would be higher per month than that cost. If the venture goes well then naturally you will want to bring in house later down the road.

Building requires a huge amount of time, experience, talent and resource without any assurance that your product has nailed the market need. Buying is generally a smarter way to launch and that gives you ample opportunity to learn from the vendors offering what works and what doesn't. Iterating from there is generally a more flexible approach than doing it yourself from the start. I learnt this from having built the solution twice, and certainly wishing I hadn't first time round.

With regards to building, the community around Fintech is burgeoning and becoming more collaborative than ever before. The open source community is melding into this and creating fantastic potential to build better and faster than ever before. But this aspect of a build is still in a relatively early stage and embedded finance is its aim. However Embedded finance hasn't really had enough exposure and maturity for me to be able to convince myself that building yourself is something I can wholeheartedly recommend.

Note: some tech solutions have hard coded fees into the transaction line items. This is great for automating fee collection and eliminates reconciliation and invoice challenges. However, I would recommend avoiding this entirely if you can. Accumulating fees at a transaction level makes it difficult to attract B2B clients who generally prefer to have all fees accumulate in a control account. Running a control account gives the client greater flexibility to charge the end user as they please, without constantly having to factor in the line item debits on the originating transaction. The downside is you end up chasing payment, but the upside is you generally get more clients to chase!

Lastly If the option is available, then sitting on Banks existing solutions is a no-brainer. Sometimes banks will internalise the technology and build bespoke. If a bank doesn't have this inhouse, then typically they will use an external virtual ledger management system.

14. WHERE CAN I GET THEM?

The most effective one I've come across to date is CitiBank, with a proprietary network (as opposed to a correspondent network) for payments and account generation. They offer fantastic flexibility and competition in a multitude of jurisdictions. Solutions like these are not the most accessible however, requiring significant recurring incomes for them to entertain the offer, and (naturally) rigorous onboarding. However, there are numerous other banks offering them. ClearBank offers a UK specialised solution. CFSB seems to be the first stop for European Fintechs moving to the US. Cross Riverbank are also making a play into the US Space.

If you're trying to build a bank rather than a payment institution, then you may need more than virtual accounts. The route then is most likely an outsourced modern core banking system. Systems like Mambu, Thought Machine or Temenos contain functionality to issue multi-tier hierarchical account structures. Then there is a plethora of enterprise grade solutions out there for banks. FIS, Cashfac and Tieto to name a few.

Integrated Finance is our own offering - aimed at Fintechs who want the flexibility to choose their vendor, but not have to manage the vast logic involved in reconciliation and maintenance of balances. You also get to BYOB - Bring your own Bank. Has also been referred to as the 'constellation' approach.

Then there are the providers who offer this 'aaS' As a Service. They offer a convenient out of the box solution that manages the reconciliation and ledger management as well as the operational processes and have banking partners integrated. The upside is you get good speed to market. The downside is you are restricted to the vendor's own banking network rather than your own. Therefore, if you have multiple suppliers, this can complicate matters. Still it's a fantastic way to get up and running. Great offerings in this market are CurrencyCloud, Railsbank and OpenPayd. Or if you are a small business and just want access to the functionality as a consumer of services, then WorldFirst, OFX and Payoneer are awesome solutions.

There are also fantastic communities like Moov.io who embody collaboration and Fintech. They are a little more focussed on getting ACH right now (no small task), but their work is bleeding into so much more than that. I think the team over there are going to become very big very fast.

15. HOW CAN I GET THEM?

If you are a Fintech - there are two routes you can take. Licenced and Unlicenced.

As a licensed entity, you can partner with a bank or another Fintech or if you're really ambitious sit directly on the scheme. Sitting on the scheme means you have to build the tech yourself or go to market and get a core. The general route to market for modern Fintechs is to take something that already works and iterate on it. It's also possible that you can take agency of a bank's licence too - although that is a burdensome process.

Having a licence is really the tip of the iceberg (Unless it's issued from the Bank of Lithuania where the licence sensibly comes as part of the approval process for IBAN and payment solutions). The complexities are really around ensuring you have an offering that is both competitive and compliant. Innumerable Fintechs have fallen on their own sword by trying to build everything themselves and becoming Generic Fintech #2134214. Being a jack of all trades and master of none makes it difficult to penetrate any market at all. If you do want to get them from a bank, make sure you have an airtight operational system and robust compliance procedure. Banks won't let you issue virtual accounts on their network without having absolute certainty that it doesn't leave them exposed to the types of fraud and money laundering that they can barely stop in their own houses.

Typically, it's easier to get virtual accounts if you can demonstrate an existing occurring revenue. Creating virtual accounts through banks is not a simple undertaking. Banks will rightly want to hedge their bets by making sure you have incumbent clients to cross sell too.

If you don't have existing clients, then it's almost certain you will have to pursue the Fintech marketplace. Plenty of Fintechs in the sea, and most will be happy to take a punt on you being a unicorn.

If you are unlicensed, Banks simply won't work with you. This means your only option is to take an as-a-Service model as a reseller of a licenced entity. You won't own the relationship with the end user, but you will have a degree of control over the commercial relationship and possibly the customer service and experience.

If you are an end user, there are a plethora of solutions vying for your attention. I won't insult your intelligence. Google can do that for me.

16. WHAT TO LOOK OUT FOR WHEN SOURCING THEM

If you have been involved in financial services for any meaningful amount of time, you will have learned that in most cases, things DO NOT do exactly what they say on the tin. Whether it's a salesperson who doesn't actually know what he's selling. Or a salesperson who knows exactly what she can sell but needs to embellish the offering to secure the deal. It might be an over exuberant CEO who has investors to impress or a simple miscommunication, Fintech is awash with strained customer/supplier relationships where one feels duped and the other feels stretched. The point is do your due diligence. Verify everything. Get everything in writing. See examples of what was promised in action. Get references. The very reason so many players exist is that no one Fintech has perfected everything. And that means they usually have strong suits and weak points. You can't very well blame them for not focussing on their weaknesses in a sales pitch. The main point you need to look at:

Jurisdiction: Be open about where you want to operate and ask the supplier can they support you in those regions. If so, how?

Price: Try to understand the upper and lower bounds from the outset. Make sure you don't have an unrealistic perception of cost.

Risk: Be honest with yourself and figure out what your go to market strategy is. If you want to target consumers, does the supplier have the infrastructure to handle high demand. Consumers are far more numerous and demanding than businesses. They are also far more vocal when things go wrong. Maybe you want to target high risk / high margin industries. This can create friction with the supplier who often has their own network to keep happy. Make sure these tough conversations happen early. Don't waste their and your time pretending you are going to be attracting super low risk business if that's not your goal.

Technical capability: Test their APIs. Test their front office. Pay for an audit - just make sure the system you are dependent on can do exactly what you need it to. This includes operational capacity. Make sure the fee structure doesn't impact your client experience. If you want to charge with model Y, and your supplier can't support that - this can be a deal breaker. Do you need webhooks? Are you happy with a job schedule system or do you need event-based updates?

Accounts: Look at what type of accounts they are - are they real or virtual? Are they connected to local schemes or SWIFT only? Many suppliers can receive SWIFT in but not send SWIFT out. Does that impact your offering?

Are you able to offer multiple same currency accounts to a single user? If so - can your supplier offer it?

In/Out/Both: Is the solution a receivables solution. Most are! If you need to remit out in the name of your customer, this restricts the range of providers you can work with.

Safeguarding. If you are using a Fintech, then it's highly improbable (but not impossible) that they can offer the type of safeguarding needed to protect **your** customers. Get absolute clarity on that. More likely, you'll need your own direct bank relationship to offer that.

Timings: Find out their payment screening technology. If you promise your customers instant payments, you need to know that your supplier has the technical and regulatory

capability to offer this. Nothing is worse than accepting a payment submission for your customer and then waiting two hours for a payment run and then manual screening checks.

Currency: What currencies can they offer. Are you looking to go global? If so, a single currency solution might not be an option.

There are many more things to consider, I can't list them all here but hopefully the above gives you an idea on things to consider.

17. WHAT DO BANKS THINK ABOUT THEM?

That largely depends on two things.

1. Which Bank?
2. What Purpose?

For Banks that generate significant revenues from transactional facilitation and treasury services, virtual accounts will largely be viewed with positivity as an enabler of greater control over client liquidity. Equally for Banks that have a strong presence in the Fintech community they are looked at as a necessity to compete.

A constant source of discomfort for banks is the purpose with which these virtual accounts are used. As mentioned above, the inception of virtual accounting was brought about by the increasingly complex needs of corporate clients as their accounting functions became treasury functions and the necessary manpower to manage effective controls began to mushroom out of control. In this aspect, banks are unequivocal in their assessment that virtual accounts have an uncompromisable added value.

However, the opinion of its application for Fintechs is not unanimous. The emergent use of this technology among the Fintech community as a way of operating as a pseudo-bank has challenged banks to think more carefully about their deployment. In the last few years, we have seen the prevalence of multijurisdictional virtual accounts, meaning an account without border restrictions. This creates challenges for banks in a number of ways.

Firstly, a bank has to be in compliance with international law as well as all local laws in which they have an operating presence. That creates complexity when delivering these types of services. Consider the Eurozone initiative - the Wire Transfer Regulations. This mandates that any payment where there is a middleman involved must contain accurate information on the ultimate beneficiary of said funds. Therefore, if you are remitting funds to a Fintech solution where the intended recipient holds a virtual account, that means you are not including the necessary details to comply with WTR2 because the ultimate recipient isn't the initial recipient. An onward payment will need to occur for that to happen. Additionally, when you consider virtual accounts are actually a type of mask of the real account owner, the technology seems to be directly at odds with this regulation.

There are a number of Tier 1 Banks that take the above stance when considering virtual accounts. They just so happen to be the same banks that tend to get all the major Fintech flow anyway, so perhaps the commercial incentive isn't there to adopt the tech.

Another challenge is the fact that as the Fintech community grows, a new pseudo-correspondent banking layer is emerging; one that the banks and their own networks (proprietary or otherwise) have become facilitators to merely by virtue of banking the Fintechs themselves.

This newly emerged layer of cross-border trade facilitation either needs regulation, or a serious revisit from the banks themselves.

The example I am talking about again is tied to virtual accounts. Consider the following.

Let's say there is an imaginary Fintech called TransferTech. They hold relationships with a bank in the US and the UK - let's say its DollarBank in the US and PoundBank in the UK. Through these relationships Transfertechn offers a British business a local virtual account in the US and a local virtual account in the UK. We'll call this British business, PintSize. Pintsize uses these accounts to quickly and easily collect payments from customers in America and to remit the funds back to the UK. All without confusing the buyers in America, keeping the cost down and not having to wait days for the funds to clear (without recipient fees)

What TransferTech is actually doing is facilitating a crossborder payment for a company called Pintsize. However, what DollarBank and PoundBank are likely to have visibility of is a transfer from TransferGuys' own accounts in the US and UK. The crucial thing here is that it creates the potential for opacity in an industry where compliance is everything. It's possible that this opacity could be used as a vector for harm and illicit activity. I have no doubt that TransferTech is likely to have even better controls than either bank they work with. But would the Fed and the PRA accept that as an answer if the banking participants in their schemes were required to offer definite proof of fund flow... Unlikely.

Moreover, will your non-domestic clearing bank or correspondent (your portal to another country/currency) be happy with the perceived lack of visibility created on their network. If there is one thing **any** bank is unwilling to risk, it's their correspondent banking network.

Anyone who has been in Fintech for 10 years or more will have witnessed banks almost at the drop of a hat, ending their years' long relationships with the incumbent FinServs of the early 2010s. To understand this, you have to look at it from the bank's perspective. Consider any Tier 1 Bank. Who do you think are the chief drivers of revenue? It typically isn't your average Fintech. It's the NASDAQ listed firms. It's the FTSE firms. It's the companies with vast resources, major cash on account and truly **global** operations.

Now put yourself in the bank's position. A fundamental reason they have any dealings at all with these companies is their balance sheet AND their global operations. If the bank loses a major currency from their network, it hugely impairs their ability to attract and retain these blue-chip clients.

Given the 80/20 rule, losing access to a major currency would likely ravage a bank's revenue stream. Therefore, when a Fintech is offering multi-locational virtual accounts for their pool of start-up and SME customers, the numbers become very difficult to rationalise when considering the risk posed by servicing said Fintech.

TransferTech may be unintentionally flouting international banking regulations with regards to visibility on cross-border monetary reporting, and this above any other consideration puts the bank at risk. The area is still quite grey, and I expect there to be some heightened attention to this as Fintech's market share grows worldwide, but banks have every right to approach this with caution. Fintech's job is to create an answer to this quandary that improves upon what is in existence today.

18. WHAT DO REGULATORS THINK ABOUT THEM?

I think regulators recognise that much of the innovation Fintech is creating at the moment has an element of virtual account number issuance.

However there is a growing feeling in the AML community (with some justification I might add) that the principles and regulations that govern much of the unanticipated use cases of virtual accounts simply didn't account for them at the time of being drawn up. Prominent consultant Bob Lyddon argues in his [article](#) virtual accounts are not fully taken into consideration by the Wolfsberg correspondent banking principles as they focus only on the remitting of payments. As I have illustrated above, the monitoring of the receiving of payments is just as important where virtual accounts exist to ensure that the institutions facilitating the transaction have a true and accurate understanding of what their rails are being used for.

In my experience, regulators perceive their number one responsibility to be 'protect the (individual) consumer.' Thus far the Fintech love affair with virtual accounts has been limited to the corporate sphere and for this reason there hasn't been any huge challenge to their use. However, when these accounts are issued by Fintechs to businesses that don't have consumer protection prioritised to the level it should be, we may see regulators becoming more active in the sector.

Regulators then have this balance; on the one hand a product which has demonstrated huge traction with the market and used widely for the benefit of very large corporations as well as start-ups (for different reasons). On the other, a regulatorily opaque mechanism of money transmission that has the capacity to be used for more nefarious purposes.

Regulators need to rationalise the risk and benefits as well as the aforementioned boost to the sector. Regulators are conscious of its high rate of adoption and benefits to both the Fintech community and the wider economy and wouldn't actively seek to repress anything that compromises its efficacy. Equally as in the case of more controversial innovations like bitcoin, there is an element of the cat being out of the bag. Putting it back in again would be very difficult.

19. CONCLUSION: WHAT DOES THE FUTURE HOLD?

Doubtless, I think virtual accounts are here to stay for the foreseeable future. Too many small businesses are now making use of them for it to be palatable for any state with significant industrial trade to clamp down on. However, I do envisage some major AML disasters along the way. If Banks, with all their resources have fallen prey to billion-dollar frauds and scams, then it is inevitable that bootstrapped Fintechs will be even more exposed to this. If Fintech can weather those storms, then I can't see their adoption diminishing. The key is the learnings that are taken away each time and the way the participants and regulators come together to increase the resilience of their networks without compromising the integrity of them.

One step in the right direction is SWIFTs supposed intention to deprecate its MT messaging system for the richer MX format based on iso 20022 principles. Whilst this won't happen fast, it will give banks and Fintechs alike the ability to supply far more data in a much more accessible manner at a transactional level. This means the intermediaries involved in any global payment are going to be able to make much more meaningful assessments within their transaction monitoring systems and their screening as well as accommodate information on the virtual accounts within the payments. With advances like this, Fintech will become empowered to create greater visibility than ever before on the traffic they generate as opposed to the potential circumvention of correspondent banking rules that sometimes occur today.

Ultimately, I think virtual IBANs are in for a rough ride for the next few years, but their value far outweighs their risk and so in the end, the only way is up. But if the barriers to entry and

the cost of service continue to fall across all financial services, it's not beyond imagination, that one day issuing bank real accounts will be available as-a-service for anyone anywhere. And if/when that happens, virtual accounts will do a full 360 and go back to being the tool of large treasury functions. Fintech won't need them - they'll issue real accounts instead.