On the Right Track

Lessons learned from launching and running a financial technology startup in the aid industry, 2016-2020

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Introduction

This is a learning document rather than a final report. It provides summary information about our FTL Pilot and our company history, but it is oriented towards sharing experience and providing guidance for other initiatives.

Rather than provide an executive summary of that learning - which would be difficult if not impossible - we provide here a guide to the report, which should help you to identify which section you will find most useful.

How to navigate this report

#	What does it talk about?	You will find it most useful if...
0	Background	... you want to know why we set up Disberse, and how the service worked
1	Lessons from building a start-up in the aid industry	... you want to start your own company within the aid industry
2	Lessons from developing services based on new tech	... you want to provide technology-based services to aid agencies
3	Lessons from partnerships with FTL and beyond	... you want to facilitate or fund partnerships for innovation

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Background

Disberse was founded to address specific problems that had been identified by its two co-founders, Ben Joakim and Paul Currion, through their combined 40 years' experience of working in the aid industry (Figure 1). Finance has long been a problem for the aid industry, both in terms of raising funds but also in terms of moving it when and where it is most needed. Our value proposition for clients was simple - to enable the aid industry to move money around the globe for the greatest impact - and specifically we sought to address four key problems:

1. Transparency: funds cannot be traced from end-to-end, creating potential for mismanagement, and decreasing accountability.
2. Speed: it can take weeks for transfers to arrive, even during an emergency, slowing down the response and making it difficult to plan.
3. Efficiency: bank charges, poor exchange rates and currency fluctuations raise costs, reducing the amount that reaches those in need.
4. Mismanagement: the three problems above increase the likelihood of waste, including potential for fraud and corruption.

Figure 1: The Disberse problem statement

From the outset our ambition was not just to provide a better service, but to build a new type of financial institution that could transform the operating model of the aid industry. Finance is a leverage point within the aid system, since increasing transparency in particular, and disintermediating the funding chain in general, would create opportunities for wider changes. However we saw that existing financial institutions were not offering the products and services that aid organisations needed to address that leverage point.

Finance and technology have gone hand-in-hand since the 19th century, but the 2008 financial crisis marked a new phase in that relationship, as new technologies such as mobile telephones, blockchain and artificial intelligence have been applied to financial services. This wave of financial technology (fintech) also caused financial regulators to adapt in order to deal with the new risks and opportunities these technologies represent.

Fintech has had some impact on the aid industry at an operational level; for example, growth in mobile phone penetration and banking regulation reform directly facilitated the rise in cash distributions via mobile money. However the industry has been slow to explore how this wave of fintech might transform the business model of aid, just as information technologies have transformed business models in other industries.

Disberse grew out of the idea that blockchain technology could address some of these challenges. Although some of our early thoughts explored the possibilities of cryptocurrency, described in the early days in the AidCoin paper published in 2015 by Paul Currion, our focus shifted within our first year of operations to consider the wider potential of blockchain not just to improve financial transactions but also governance mechanisms. While technology was critical to achieving our goals, our focus was on providing financial services and not software solutions.

As well as the challenges listed above, we were particularly interested in helping the industry to overcome the structural inefficiencies and misaligned incentives which obstruct localisation. We believed that the centralised nature of funding flows created a centralising tendency, and both co-founders had identified blockchain as a technology that might be used to establish a different financial infrastructure to address this issue, potentially disintermediating many of the steps in funding chains, as well as securing the privacy of aid recipients.

However our analysis of the finance sector suggested that legacy financial institutions were not providing or developing services that could address these problems, and in some cases were creating additional problems, such as through the recent trend of bank de-risking. Meanwhile new institutions - including fintech startups, and particularly blockchain companies - either did not see the aid industry as a target market or did not fully understand the needs of that market.

Our estimate was that the total addressable aid market was approximately $640 billion USD per annum (if remittances are included), and therefore large enough to sustain our business. We also believed that there was an unmet demand for new financial services, which was confirmed not just in the course of our FTL pilot, but in almost all of our other discussions in the sector, as everybody agreed that a service such as Disberse was needed.

Our analysis was that innovations at field level, while important, were marginal compared to potential innovation further back along the funding chain, and our pilot with DFID was therefore key to our strategy. Unfortunately the reality of start-ups is that most fail - particularly during major financial crises such as the Covid-19 pandemic - and we were unable to carry out the final stage of the pilot; a live transaction using DFID funds.

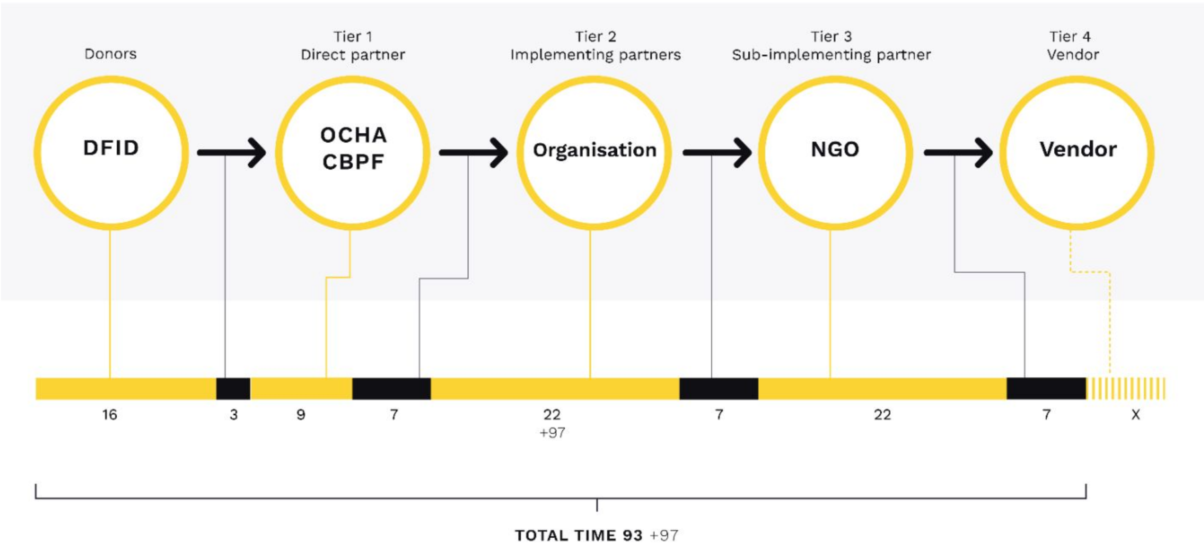
Despite this both DFID and Disberse learned a large amount from the FTL pilot, and Disberse learned much more over its lifespan. In addition to previous Sprint Reports - reported externally through the FTL blog - this report describes those lessons which we hope will be valuable to guide other stakeholders - whether within the aid industry, or in the finance or technology sectors - to bring new services to the aid community.

Our hope is that by sharing these lessons, others will be able to learn from them, avoiding repeating our mistakes and accelerating their own progress. However we are aware that, in business as in life, both individuals and institutions often need to go through their own experiences in order to truly learn, and so we offer these lessons as signposts and red flags along the path to success, rather than a route map to success itself.

How did the Disberse service work?

The short version
A client deposits funds in a segregated client account held by Disberse, and Disberse issues the same amount of funds as electronic money (e-money) to the client account on the Disberse platform. The client can then transfer these funds to any other Disberse client using the platform, where all transactions are managed by smart contracts and recorded in a distributed ledger. When a client needs the funds, they redeem their e-money from the platform, and Disberse transfers the fiat currency to a client bank account in the destination country.

Figure 2: Understanding the Funding Chain (FTL Pilot)



The long version
Transactions on platform were free and instantaneous, and as the funds move across the platform in a funding chain, all the clients in the chain could see where the funds are in real time and with total granularity (Figure 2). Our commitment to clients was that we would beat existing transaction costs aggregated across their funding chains; these costs are currently fragmented between different organisations using different financial services, and are consequently hidden.

Our value proposition was that bringing entire funding chains on platform would increase efficiencies in both cost and time; at the same time, the more organisations in a funding chain we brought on platform, the more accurate the tracking and the more valuable the transparency. This would also improve data analytics and financial risk mitigation to help clients make better decisions about how and where to deploy their resources.

A key aspect of our value proposition involved disintermediating existing financial institutions, although we would still use legacy banks at the points when funds were deposited and withdrawn, and we intended to continue working with them even after we upgraded to a banking license. We intended to build a global network of banking partners, particularly at the country level, in order to ensure liquidity for our clients.

We were therefore in discussions with banks with either a global presence (e.g. Standard Chartered Bank) or with a global network (e.g. Crown Agents Bank); and with banks in specific countries (such as Cooperative Bank of Oromia in Ethiopia and the National Bank of Malawi), as well as non-traditional actors such as Vodafone, who were rolling out their M-Pesa portal across a range of African markets.

We realised that the core of the challenge facing our clients - and therefore ourselves - was liquidity. In the long-term we aimed to build up our own liquidity pools, particularly once we acquired our own banking license. We also sought to innovate in this space, and explored how a netting and matching model might work for the aid industry, particularly by partnering with multinational corporations which might provide liquidity in target countries in return for a corporate social responsibility benefit.

All of this was built on a foundation of blockchain technology. We initially partnered with a third-party blockchain provider, Zerado, but after that partnership ended we developed our in-house capacity. Although our views on blockchain evolved over time, and there are many outstanding questions about the capabilities of distributed ledgers, we continue to believe that the technology provided a baseline level of security and transparency appropriate for our services, as well as holding the potential for increased decentralisation of finance within the aid industry, which would in turn provide better infrastructure for localisation.

Report Slice 1: Lessons from building a start-up in the aid industry

Company Form

From the outset we envisaged Disberse to become a financial institution operating at a global level. This would require providing services, and providing liquidity to support those services, in multiple countries with varying regulatory and security environments. One of the first questions we faced was, what form should Disberse take in order to achieve this goal?

Our starting point was mainly practical: Disberse was a Business-to-Business (B2B) company - as opposed to the majority of innovation projects in the sector which are Business-to-Consumer (B2C). B2C addresses the needs of individual consumers while B2B looks to the needs of other businesses. This distinction is important because B2B businesses usually require larger initial investment in order to build infrastructure, and are characterised by longer cycles and higher costs. B2B companies also rely more on building individual relationships than generating media visibility as the basis for bringing clients on board, which entails additional costs. However this B2B status did not in itself determine our company form.

We were also committed to social impact as a company, but again this did not in itself determine company form. The dichotomy between “non-profit” and “for-profit” is an illusion: there are other organisational forms in between, including the recent creation of “not-for-profit company” status in some countries, as well as various forms of co-operative. There are also potentially other organisational forms waiting to be explored, such as the concept of decentralized autonomous organizations (or DAOs) put forward by blockchain proponents, the legal status of which remains unclear.

One of our long-term aims was to build a decentralised company form to more accurately reflect our values as we attempted to provide infrastructure for the localisation of aid. We envisaged a hub and spoke model, in which a small number of key locations have physical offices but with most staff working on a flexible and/or remote basis, creating options for more centralised teams where necessary and where those teams wanted that centralisation.

However we were also aware that financial regulators require physical office addresses as part of their requirements, and would require at least some centralisation of our company in order to be able to monitor clients and transactions for compliance purposes. We therefore started out as a limited company, but early on designed our future organisational architecture to combine in layers the centralised and decentralised aspects of the company and its user community. While we were not able to implement this architecture, this remains an exciting space for innovation, and not just in the aid industry.

Business development

Given the scale of ambition and the type of business we needed a business development approach different to most innovation projects and start-up companies working in the aid industry. It was important to reach scale as quickly as possible in order to achieve sustainability. We analysed the different types of stakeholders along the funding chain in order to ensure that our business development approach could meet this objective (Table 1).

Table 1: Stakeholder Analysis

Stakeholder	Description	Examples
Governmental	Donors	DFID, USAID
	Recipient Ministries	Government of Malawi
Intergovernmental	UN Agencies	UNICEF, World Bank
Non-Governmental	International NGOs	Save the Children, Oxfam
	National NGOs	BRAC (Bangladesh)
Networks and Consortia	Membership networks, Fundraising consortia	Start Network, Dutch Relief Alliance
Private Sector	Suppliers, vendors & merchants	-
Philanthropy	Foundations and Trusts	Gates Foundation, IKEA Foundation

Individuals, as either donors or recipients of aid, were also envisaged as stakeholder groups, but were not targeted in our business model for two reasons:

1. These groups are too diverse to address as customers at a global scale, especially taking access into account;
2. Their inclusion would mean combining two completely different models: our initial B2B model with a B2C model.

There would of course be indirect benefits for these groups through improved services that would be integrated with the Disberse platform but provided by third party companies; via an ecosystem of financial services, for example by integrating existing B2C financial services (for donations and cash distributions). We began this process in our pilot with the Dutch Relief Alliance consortium but did not complete it before the company closed.

The question we had to answer was: what was the best way to build a service that would be useful for all these stakeholders? Each stakeholder category has different operational models and assumptions, and even within categories stakeholders have different expectations and capabilities. Each category would require a different approach, and if we tried to address every category we would lose focus and drain resources.

We saw three possible approaches. A "bottom up" strategy is very common in the aid industry, starting at the local level, scaling to a national level, and then using this leverage to replicate the initiative in other countries. We realised early that this strategy would not work for the type of institution that Disberse was building, and required a large amount of staff time, although we recognised that implementing pilots with partners at a local level was critical for developing services, gaining experience and building credibility.

The next possibility was "middle out", in which we would start by working international organisations and NGOs at the headquarters level, and then extend the service out to regional and country level, as well as addressing the donors which funded the operational organisations. This was our initial approach and was excellent in terms of building a constituency, but it had similar problems to "bottom up" in terms of the amount of staff resources required, and created multiple overlapping demands in service development.

This left us with "top down" - ironic considering our commitment to decentralisation, but necessary given that both aid and finance industries both work on the same basis. Since bringing volume of funds onto the platform was critical to reach profitability, we realised that our only viable path to scale was to address stakeholders which handled large volumes. We also noted that the cost of meeting regulatory requirements to operate in any given country would be high, making it pointless to seek regulatory approval in a country to work with a single NGO, but worthwhile if there was potential to work with all of an institutional donor's implementing partners in that country.

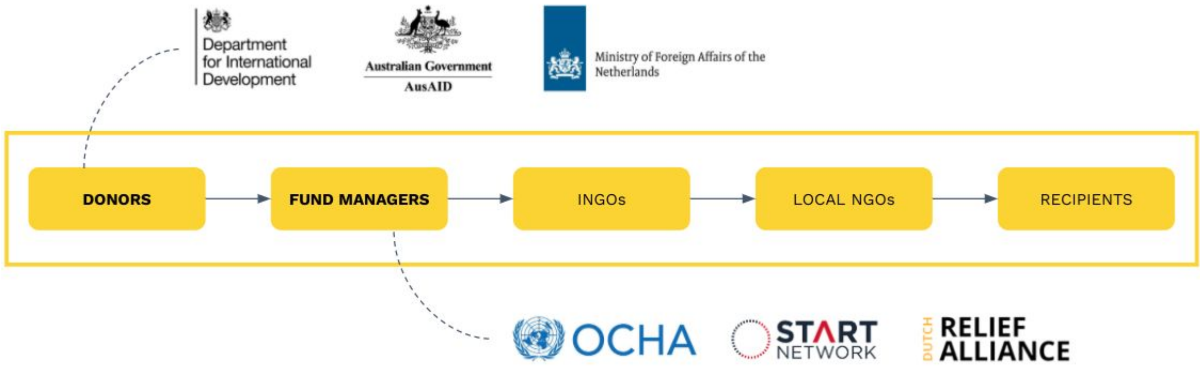
Scaling

In 2019 we therefore pivoted from earlier pilots with smaller non-governmental organisations (NGOs) to focus on large institutions - initially Government donors, e.g. the UK Department for International Development (DFID) and Multinational funds, e.g. the Country Based Pooled Funds (CBPFs) managed by the UN Office for the Coordination of Humanitarian Affairs (UNOCHA) (Figure 3). We made this pivot for the following reasons:

1. They deliver high volume; DFID, for example, distributes approximately $18 billion per annum. The CBPFs currently have a combined annual budget of $1 billion, with the UN's stated ambition to increase to $3 billion over the next 3 years.
2. They have relatively lower associated costs: low-volume clients have higher costs relative to their size, not just in sales and customer support but also for example KYC processes, AML and transaction monitoring.
3. They bring large funding chains, often with 100+ downstream users for one CBPF. A majority of these are likely to be onboarded, which enables us to begin bringing them on as full clients.
4. They generate network effects on platform through onboarding those large funding chains; as more organisations join us as clients, we are able to provide greater value to all clients in the network.
5. They expand our network off platform, giving us access to their contract partners (e.g. NGOs) as future clients, bringing us into the circle of other institutional donors and UN agencies, and giving us credibility with those other stakeholders.
6. They have significant influence. Both donors and funds have contract relationships with their implementing partners, but also have diplomatic influence over the wider response through the strategic impact of their funding decisions.
7. They are sticky customers. Since they are large bureaucracies, once they are clients it is unlikely that they will change that without a long lead time, enabling us to retain them more easily should direct competitors appear.

This decision was explicitly related to our scaling strategy. Our plan was to target European donors initially, then the Asia Pacific and North American regions. The focus on Europe was due both to its geographic and political accessibility for us, and to the relative size of its ODA; the 6 largest European government donors distribute ~$80 billion annually. This pivot also helped us to clarify that we would initially target humanitarian aid organisations which - based on professional experience - we believed were more likely to be early adopters of a new service.

Figure 3: Key Partners after pivot



Revenue model

The single most important milestone for a start-up is identifying a sustainable revenue model. Unfortunately the revenue model is also one of the most difficult things to get right; although Disberse started with a clear revenue model, it took us two years to refine that revenue model with the intention of scaling our revenue streams over the following three years to reach a profitability.

In the early stages of a start-up any source of revenue is welcome. We identified four types of revenue: loans, grants/prizes, investment and contracts. These differ in the nature and level of obligations that they impose on a company, and in how they can be used to create a sustainable revenue base. Since grant funding (supplemented by voluntary donations) is the model for large aid organisations, there is an assumption that this model can be generalised, and an attachment which can prevent those organisations from exploring alternative models.

Because the sector is dominated by this incentive structure, some private companies trying to enter the aid market also rely on grants and/or prizes to maintain their revenue. While these funds can be useful to bridge an investment gap, we did not believe that they are a basis for a viable long term revenue model. In particular, prizes are often more about creating visibility - both for those giving and receiving the prize - than achieving impact. Grants are a better fit for most revenue models, but grant contracts need to be serviced, which can distract from core business activities.

Any funds that are tied to a specific theme or project risk steering the organisation in the direction of work that - while worthwhile - is not core to their commercial offering, which in turn can delay the development of a sustainable revenue model for even longer. For these reasons Disberse decided that this revenue model would not be sustainable and was not appropriate for the company, and made a strategic decision at the outset not to seek grant or prize money. We raised a pre-seed round of investment and focused on pursuing contracts with potential clients while building the evidence base necessary to secure service level agreements.

Based on this, we developed a revenue model which included multiple revenue streams, the majority of which were linked to the volume of funds on platform.

- Our foundation was a fund management fee of ~0.5%, charged to institutional donors at the point of deposit. Donors are best placed to recognise the value of savings across the whole funding chain, and also have the resources to cover such a fee where institutions at the other end of the funding chain (such as national NGOs) might not. We would also charge a Currency Conversion fee of ~1% at point of exchange on platform, initially at wholesale rates through banking partners; at scale we anticipated being able to negotiate better rates for our entire client base.
- Although they would not make up a significant proportion of our revenue, contract work was critical to our business development. Contracts would enable us to expand our market reach (e.g. in new regions, countries or institutions) or our service provision (e.g. to develop or acquire new services); for example, the Simulation that we developed for the FTL pilot could model finances for other potential clients, and eventually we planned to develop “simulation as a service” within the Disberse platform itself.
- Our services marketplace would integrate third party providers of services relevant to our clients with our platform, enabling them to reach a wider market; and provide clients with a portal to access those services more easily than they would be able to do on their own, helping them to access services that they might otherwise struggle to adopt. The marketplace would use a revenue share model, where Disberse takes a percentage of the third party fees charged to clients. We also considered developing our own added-value services, such as prepaid expense cards that client staff could use to integrate their expenses with their client account.

We therefore entered the FTL programme with a clear revenue model in place, in which the FTL contract was included. We treated the FTL programme as contract revenue (rather than grant revenue) and presented it as such when talking with investors. (It is worth noting that internally DFID may have had a different perspective, seeing it as grant funding; such differences in perspective have the potential to create tensions in the relationship, although we did not experience this.) The FTL revenue was crucial as a part of our bridge while we raised our next round of investment, but also as part of our client development model.

Entering the Market

We identified six significant challenges for start-ups entering the aid market:

1. Sector experience is essential, both in terms of developing a service that responds to real rather than perceived needs, and also in terms of credibility with donors, fund managers and aid agencies. Our extensive previous experience working in aid enabled us to address this challenge.
2. Knowledge gaps were more challenging than anticipated. Developing pilots in sub-Saharan African countries, both our implementing and banking partners were unable to provide clear guidance on regulatory questions; we saw this as a potential service that we could offer to clients in future.
3. Entry costs can be high, especially if you need to establish legal presence to operate in multiple countries. We had additional costs that other start-ups do not, due to our need to obtain regulatory approval as a financial service provider; we addressed this by going through the FCA's regulatory sandbox.
4. Procurement processes were expected to pose a challenge with all potential clients. We were able to avoid this since a) pilot projects normally required less extensive due diligence, and b) single vendor exemptions were available since there were no other companies providing our specific service.
5. Institutional 'stickiness' means that organisations are reluctant to switch between service providers, making it difficult to convert them to a client. Our assumption was that if this could be overcome (through bringing them along the client pathway) the same stickiness would work in our favour.
6. Geographical positioning was important, confirming our assumption that, although aid is a global industry, it still relies on a centralised structure. Neither of our co-founders were based in the key centres for aid, which created an additional challenge for building relationships.

There is also a significant cultural obstacle to entering the market; the aid industry as a whole does not have a coherent approach to dealing with the private sector. One question that was regularly raised by our potential clients - particularly donors - was whether Disberse was seeking a monopoly position, with the clear implication that even seeking such a position was bad in some unspecified way.

We were not interested in achieving a monopoly per se, but about generating network effects - and this is key to understanding our long-term strategy. In one specific sense Disberse was less like a financial service provider than it was like a social media network: the more organisations joined our platform, the more valuable our service would become to those organisations. In order to maximise the utility of our tracking tools and the scale of our efficiency gains, we needed as many connections in the funding chain as possible, which meant maximising the number of clients on platform.

We doubted that our potential clients ever asked the same question about monopolies when they were selecting other financial service providers - such as their regular bank - and it was difficult to identify exactly what the concrete objection was. However we understood that these concerns were genuine, and so we sought to emphasise that we were a financial service provider, and that clients would be free to move to another service provider (particularly as we made a commitment to implement an Open Banking approach). We also made it clear that we welcomed direct competition for our service; although our competitive analysis suggested that there was little competition at the time.

Competitive analysis

Carrying out analysis of your potential competition - on both the for-profit and non-profit sides - is critical for understanding your own position in the market. It also highlights possible partnerships, and identifies other service gaps which you might be able to fill. We identified three categories of potential competitors and carried out analysis to test our assumption that we faced no major competition for the specific service that we were seeking to provide.

- Legacy financial institutions - banks and FX providers - were our main competitors since aid organisations currently rely on their services. However we consistently heard from potential clients that those services, while generally reliable, did not meet all their needs, particularly around transparency. Our goal was not really to capture the existing market served by these institutions, but to create an entirely new market layer that would sit on top of the existing financial system.
- Challenger banks (and other fintech start-ups) were potential competitors, but almost none were targeting the same market as Disberse. Some of these companies provided us with inspiration - for example, we explored whether we could develop a similar netting and matching model to Transferwise - it was clear that those companies would not seek to target the aid industry as a specific market, leaving us with the space to provide value-added services that were not available elsewhere.
- Blockchain startups were the only type of fintech startup that we saw trying to enter the aid market, usually focused on either individual donations or cash donations. Many of these have now either closed or pivoted; none achieved scale, at least partly because they lacked either expertise in the sector or a clear business case. Many relied on cryptocurrency rather than the underlying blockchain technology and did not seek regulatory approval; thus Disberse’s “blended” approach of blockchain-based services built on a solid regulatory foundation was a unique selling point.

Table 2 shows how we broke down this analysis, with the example of legacy banking for comparison. We did expect that we would face future competition, but during the life of the company this competition was not strong. As far as we know there are still no other providers - either legacy or challenger - offering a similar set of services as Disberse, although we hope that these will emerge in the future.

Table 2: Example Competitive Analysis

	DISBERSE	LEGACY BANKING	OTHER ACTORS
MULTI-CURRENCY	YES	YES	...
TRACEABILITY	END-TO-END	A2B	...
CHAIN ANALYTICS	YES	NO	...
PRICING	DEPOSIT, FX + FEE + PREMIUM	FX + FEE + PREMIUM	...
SECTOR FOCUS	AID	GLOBAL FINANCE	...
AID EXPERTISE	HIGH	LOW	...
MARKET APPETITE	HIGH	LOW	...
REGULATED	YES	YES	...

Client Engagement

After establishing business and revenue models, developing client relationships was the next most important part of our strategy. As far as possible we integrated our partnership approach into our models, and in turn those client relations helped us to develop our business and revenue model. This feedback loop was critical for keeping an agile approach.

Developing client relationships in the aid industry required a large investment of time. The aid industry is composed of a large and fragmented group of stakeholders with varying geographic and thematic interests, requiring any company seeking to operate at a global level to make strategic choices about which stakeholders to approach. In addition most aid organisations still have slower decision cycles than their private sector counterparts, which can prevent rapid progress and present additional challenges for both sides.

We accepted this because we understood that Disberse's sales cycle would be slow. The nature of the service we provided would require a lot of internal discussion supported by clear evidence over many layers of approval before finally being adopted as a service. This was not just an app that an individual aid worker could download onto their phone (as is the case with challenger retail banks, such as Monzo), but required an organisation to adopt formally as a new financial service.

The time we spent on working out how to develop partnerships - some of the lessons from which are described in Slice 3 - turned into the creation of a systematic client pathway. This was a template for developing client relationships that consisted of a series of steps, each of which would give both Disberse and the potential client a positive outcome, and thus lead towards mutual success.

1. We set up a standard Demonstration Pilot to show the potential client what the platform looked like and the basic functionality it provided. If appropriate, we were able to give the potential client a long-in to the demo platform, so that they could participate directly in the demonstration, rather than just watching a run-through.
2. We developed the idea of running Simulation Exercises on the platform using historical data. This enabled potential clients to test the platform with no risk to funds or reputation. They would receive analysis of potential efficiencies to inform their decision about whether to adopt the platform, while we gained access to data that helped us to better understand their needs.
3. Following a successful Simulation, we would carry out Live Tests with a limited volume of funds moving on the platform, usually from headquarters to a country office, and ideally on to local partners. This would provide the potential client with experience with using the platform and confidence in the basic service, while giving us useful feedback to improve both.
4. The final step was to sign a Service Agreement, onboarding the organisation as a client and bringing their funds onto the platform.
5. We anticipated that clients would introduce us to their partners in the funding chain, i.e. the organisations from which they receive and to which they forward funds. This would create the Network Effect that would increase the value of the service for all clients and create the incentive for new clients to join.

This pathway was not set in stone. We anticipated that some potential clients might halt on a step, while others might skip a step; we set 80% as our initial target for successfully moving a potential client along the pathway, but we were prepared to revise that based on experience. The pathway was also intended to help us to manage our workload, by clearly identifying at which stage in the pathway a potential client was at, and what resources the relationship required. We aimed to create a stable pipeline, so that if we failed to secure a specific client, we would already have another client ready to move from an earlier step.

We also aimed to establish blockchain-based distributed governance mechanisms to enable users to manage the resources on the platform collectively. We saw a wider range of users as valuable in creating feedback loops that would enable us to improve existing services and create new ones. Finally we needed to build a user community in order to increase adoption of the service through network effects, since the value of our traceability service was directly related to the number of users on platform. Our first partner, the Start Network, gave us access to a range of humanitarian NGOs with which we were able to develop our alpha pilot series (Figure 4). Unfortunately we were unable to convert that relationship into a contract; like many aid organisations, the network had multiple competing commitments which made follow through slow and difficult.

Figure 4: The Alpha Pilot Series

Investment

As a regulated financial institution Disberse had higher projected costs than most start-ups. We predicted that those costs would increase in the near term because of Brexit - one of the consequences of which was potentially the end of the ability to "passport" our UK authorisation to work in other EU countries - and in the long term as the volume of funds on platform increased, and as the complexity of the business increased across multiple jurisdictions.

We planned to upgrade our license from Small EMI to Authorised EMI license by 2021, and within five years to a full banking license, and potentially to acquire licenses as necessary to operate in other jurisdictions. Each of these licenses had their costs for application and maintenance, and each had a large capital requirement, i.e. the money we would be required to hold by the regulator. The compliance costs - implementing the necessary Know Your Customer and Anti Money Laundering policies and procedures, for example - would also be high, particularly because many of our target countries and clients would be considered high risk, although we had already planned to automate our compliance processes.

Obviously this will not be the case for most start-ups; this scale of ambition may have been one of the reasons for our failure to secure our next round of funding, but we believed that it was critical to achieve our vision. What was clear is that securing our investment took longer than average - most deals take an average of three months, while ours took nearly a year - and companies taking a similar path should ensure that they have contingency plans. Our contingency engaged a group of smaller angel investors who could bridge this investment time gap; we also used the opportunity to consider what other factors may have created this gap.

We did not have a clear basis on which to estimate our value, and therefore found it difficult to make a realistic valuation of the company for investment purposes. As a result our valuation may have been too high, which would have affected our investment schedule, but we were never able to confirm this independently. We also sat at the intersection of three different categories: finance, technology, and aid. We benefited from this because we were able to talk to investors interested in any of those three categories, but were hindered by the fact that we did not fit comfortably into any of those categories. This required us to have three separate sets of conversations based on different pitches and, since we did not fit neatly into a standard investment portfolio, made it hard to match with the right investor.

Another challenge for potential investors is that Disberse was not just trying to deliver a new type of service to the aid industry, but also trying to deliver it in a different way to most start-ups. Disberse never intended to become a "unicorn" (i.e. a startup valued at over $1 billion), to seek acquisition by another company, or any of the standard strategies that define "success" in technology investment. We were instead aiming to build a sustainable institution that would deliver value in the long-term while facilitating the transformation of the business model of the aid industry. Our B2B approach was different to most social impact companies, and this was something that most investors - even impact investors - struggled to grasp clearly; and when they did grasp it, they were not convinced that it fit in their portfolio.

Positioning yourself as clearly as possible is the only way to address this, even if it means simplifying your pitch considerably. However our experience - and our awareness of others' experience - led us to believe that there are significant problems with the existing venture capital system which made it a bad fit for our requirements. We had three objectives: to build an organisation that would have a long-term future; to embed our social impact mission in that organisation; and to ensure our business model reflected that mission. We believed that this would require a different type of financial service provider than currently exists, and we were seeking to innovate not just in the services we provided, but in the structure of the provider.

This meant that we were extremely cautious about giving up equity to external investors, who might undermine those goals in their own interests. Although it was never explicit in most of our discussions, many investors favour an exit in the medium term - either an IPO or an acquisition - to realise their investment, rather than committing to building a sustainable organisation in the longer term. In our case - and for organisations with other, similar visions - we realised that our valuation was less important to us than finding partners who shared our vision and that we would therefore be comfortable giving equity to. In this we were lucky to be the first investment in the portfolio of Comic Relief, who had recently decided to branch out into investment.

Impact investors show more flexibility, but we also struggled to bring them on board. This was most likely because impact investors usually look for more direct impact, i.e. B2C start-ups who connect directly to people or communities in need, rather than the indirect impact that a B2B start-up provides. This is despite the fact that B2B models are more likely to lead to system change, and it seemed to be a gap in the impact investing model which others have also begun to notice.

We therefore needed to innovate in how we raised finance. Due to the high capital requirements of running a financial institution, our investment requirements were relatively high compared to other start-ups at a similar stage, although not unreasonably high. Eventually we settled on a new model of investment for a share of revenue (rather than of equity) which would allow the founders to remain in control of the organisation. However this investment model was relatively new, and since we were already innovating in both our service provision and company structure, it may have been a step too far to try to innovate in investment as well. Although we had all the fundamentals in place and had identified an investor, we could not close the investment.

Starting a company is always a gamble, and sometimes you lose. We will not in this report attempt to analyse in detail why the company did not succeed. The failure of most start-ups is not usually due to a single reason but the accumulation of many internal decisions and external factors, although there may be a single incident which leads to or forces the decision to close. In our case that single incident was that we were unable to secure seed investment, but even this single incident had a number of underlying reasons, the most important of which was the initial economic impact of the COVID-19 pandemic response.

Report Slice 2: Lessons from developing services based on new technology

Our approach to developing new services for aid

Given that the aid industry is composed of a large and fragmented group of stakeholders with varying geographic and thematic interests how do you build a service that meets the very different needs of those different stakeholders? As we discovered while working on other contracts, this is a huge design space and, despite our team's experience in the sector, it took us a long time to understand how our company fit into this landscape.

Stakeholders can be categorised by characteristics relevant to your product; for example, access to technology, language and location, and so on. We used the concept of the funding chain to build our categories, described as the flow of finance both vertically and horizontally between organisations. Working on a specific issue such as transparency narrowed our focus, but the FTL pilot in particular showed us how different this single issue looked depending on which stakeholder perspective you adopted.

Transparency means something very different to an institutional donor staff member than to an individual recipient of aid. Even within the same organisation, we encountered varying interpretations of transparency - underlining the need for cross-departmental collaboration - as well as different ways in which staff articulated their concerns, and different levels of tolerance for the design risks involved in transparency as a service. (We explored this in the post What does transparency look like? for the Frontier Technologies Hub.)

As a result the transparency requirements of one stakeholder may not be appropriate or relevant for another - or for the funding chain as a whole. Transparency also exists on a spectrum, from fully opaque to fully transparent, and to provide such a service, we would need to offer different "versions" of transparency, both for different stakeholders *and* for different practical implementations.

However trying to design something that would meet the needs of every stakeholder in the funding chain created the risk that we would end up building something that didn't meet anybody's needs particularly well. A feature that would be useful for DFID might not be useful for a national NGO; and even within a specific stakeholder group there is often large variation which would affect not just the user experience requirements but the architecture of the service itself.

We developed our offering through the following steps:

1. Identifying a general problem - that aid funding flows are not transparent enough to address issues of accountability.
2. Articulating a specific problem - that existing financial institutions were not able to meet the specific needs of the aid industry
3. Creating a solution to that problem - to establish a new type of financial institution that would be able to meet those needs
4. Validating that solution through consultation with potential customers about the specific services that institution could provide
5. Co-designing those services based on the consultation, with iterative development of the technology underlying the services
6. Explore potential new services that emerge during the development process itself, particularly where they can generate revenue

The first three steps are described further in Slice 1, while this Slice will focus on the last three steps.

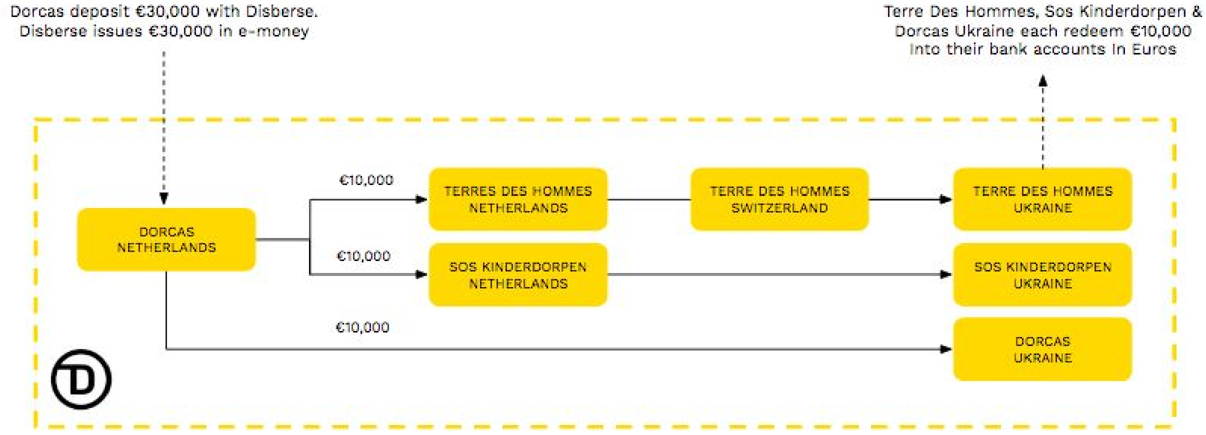
Our progress through these steps helped us to clarify a number of obvious failure points that are relatively well-known but still worth noting. A common mistake for startups is that they incorrectly identify what the real problem is, thus missing their business opportunity; as a result of that, they will incorrectly identify what the necessary solution is, thus missing their business model. Matching the real problem with a real solution results in a service that users want, although it does not guarantee success; in particular good timing is essential because new technology might render your solution obsolete, or another company might come to market more quickly. Timing is partly a question of luck, but it is also a skill.

Validation

Validation of the Disberse concept was an ongoing process throughout the life of the company, since every discussion should ideally be a test of the concept. This includes investment pitches; however pitch meetings usually focus as much on how services fit into business planning and revenue projection, as on specifics of the services themselves. In this section we focus on validation of the latter, while there is discussion of the former in Slice 1.

Our Alpha pilot series in 2018 was easily the most important part of the validation process, since it validated our core value proposition with potential clients by actually demonstrating how that value would be realised in practice (Figure 5). Validation did not equal affirmation, and negative feedback is also useful to test if our value proposition was a good fit with potential customers. In the course of the pilots we realised that the staff of potential clients required much more guidance in how to use the platform than we initially hoped; the support materials we developed for pilots then became the core of our user manual drafting process.

Figure 5: Example of Pilot flow (Alpha Pilot)



Validation helped us to understand that our service did not solve every problem facing aid organisations - for example, it did not address the trend of bank de-risking, which has made it difficult to access financial services in countries that are under sanctions or otherwise deemed to be high risk. In developing a pilot with the Dutch Relief Alliance, we realised a more general problem of under-developed and under-diversified financial services in countries such as Ethiopia and Malawi. Working with institutions in those countries presented tremendous partnership opportunities, but required large time investment to allow for cultural and language barriers, as well as differences in technical capabilities and organisational processes, which shaped internal discussions about future staffing and structure.

In the context of the FTL Pilot, the validation process also brought several specific problems into focus for us; while these problems did not come as a surprise, they forced us to revisit the problem articulation step. In particular our discussions with OCHA staff and IATI stakeholders showed us that tracking data was far more fragmented than we had previously realised, with gaps in the data, particularly at country level, which were not the fault of any single organisation but an artefact of the system as a whole. We also discovered that, in the case of the Country Based Pooled Funds, there was a disconnection between offices in the funding chain which was actually creating collective action problems:

- In the funding chain vertical (i.e. from the fund source to the fund destination) the OCHA Country Office has no notification when funds leave United Nations HQ in New York, which means they cannot answer questions from Implementing Partners if those funds are delayed for any reason.
- In the funding chain horizontal (i.e. between stakeholders at the same operational level) Implementing Partners have no way to identify if a problem they face - for example, if a bank is over-charging - is also faced by their peers, which means they have no way of addressing that problem.

It is important to note that the Alpha pilot series was not intended to and did not validate other parts of our business plan, such as how we would bring Disberse to market or how we would scale the service; and some aspects of our service could not be validated until we got to market or reached scale.

Co-Design

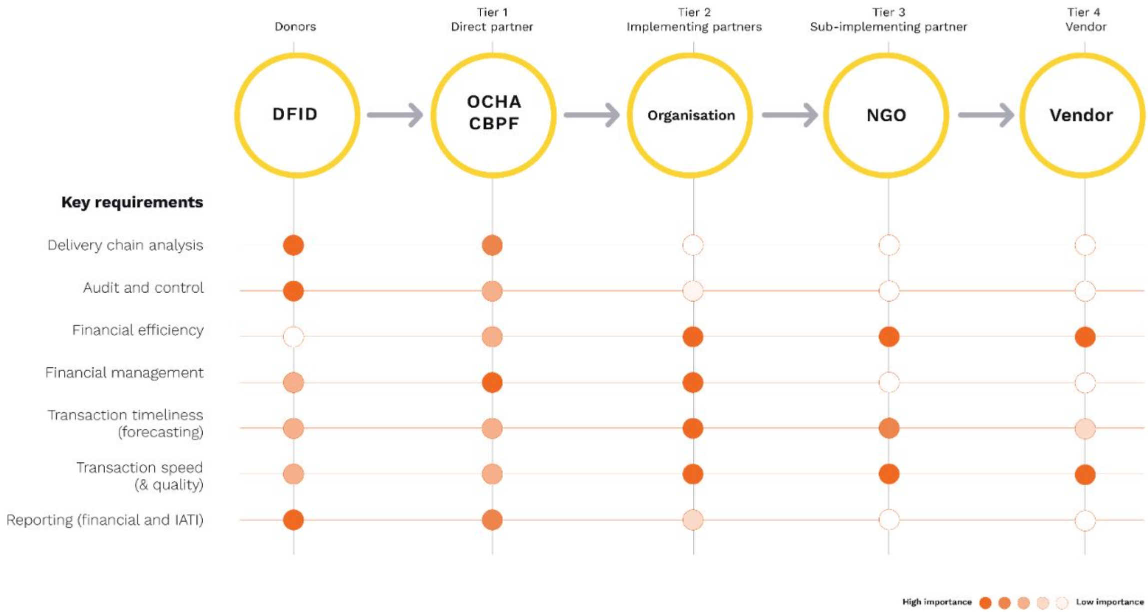
Co-design is critical to developing a successful service which actually meets client needs. We did not have the capacity to take a comprehensive co-design approach - which requires a solid organisational framework, the development of in-house expertise, and willing partners with the resources necessary to participate - but we treated the development of pilot projects as [light-touch exercises in co-design] that we hoped to build on in future iterations.

Because co-design can lead in unexpected directions it can also be a distraction from developing your core offering. It is therefore equally important to get the balance right between asking people what they want in order to build it, and building something in order to help organisations to understand that they need it. You need to take into account what is important to different stakeholders not just for the design process itself, but also before the design in order to create the incentives for those stakeholders to participate.

Design thinking is not widespread in the aid industry, and co-design in particular requires additional expertise, time and money which is difficult to find funding for. We benefited particularly from our work with the Dutch Relief Alliance on the 121 Project, where 510 (the innovation unit in the Netherlands Red Cross) put a strong emphasis on design processes as a way of building developer collaboration and ensuring user satisfaction. Although co-design sometimes seems as if it yields results that are obvious in retrospect, our experience was that it is worth the investment for a number of reasons: our limited attempts at co-design helped us to articulate issues that were previously implicit, particularly to identify problem areas and dead ends, and grounded us in a process which we could point to as an evidence base.

The co-design process itself was almost as valuable as the outputs, generating other benefits for the company. It gave us credibility by showing that we understood the problems the sector faces and that we took stakeholder needs seriously. It gave potential clients a stake in the success of the service and gave potential champions within those client organisations more material to work with, which made their organisations more likely to support adoption. It also formed part of our client pathway by reassuring them that service would meet their needs and remain responsive to those needs while on that pathway. Figure 6 shows an example of this analysis mapping the key stakeholder concerns.

Figure 6: Stakeholder requirement analysis (FTL Pilot)



Exploration

Within the second year, we had identified the Disberse service offer as shown in Table 3. This suite of core services was a combination of the original vision for the company, combined with services that potential clients had expressed interest in which fit that vision. These services would not be rolled out at the same time, but deployed as they were developed, with focus shifting to services where there was higher demand from clients, thus keeping our service offer agile (albeit giving our platform developers and regulatory team occasional headaches!).

Table 3: The Disberse Service Offer

End to end traceability Track the flow of project funds from end to end, enabling real-time audit trails for reporting.	**Donations** Integrate with Stripe and other fundraising platforms to receive donations.
Instant transfers Send funds for free to any organisation in the world with a Disberse account, within seconds.	**Cash Transfers** Integrate with cash platforms, mobile money & vouchers to enable greater financial inclusion.
Multi currency account Hold, send and receive funds in major currencies including USD, EUR, GBP + others.	**Marketplace** Connect a range of innovative financial service providers with clients in the aid industry.

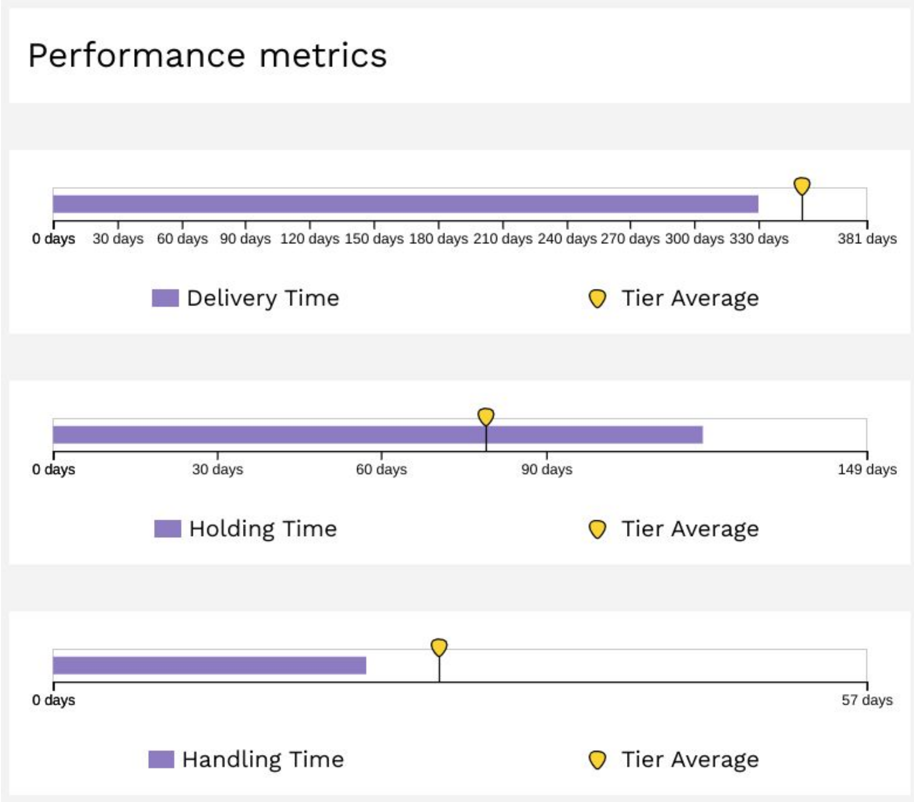
Foreign exchange Manage liquidity and FX into major local & exotic currencies, at optimum rates with no hidden fees.	**Compliance** Enable aid organisations to meet their regulatory requirements in sensitive and insecure operational environments.
Treasury management Manage financial risk and currency exposure across international operations.	**Analytics** Provide better analytics to the entire aid industry, enabling organisations to make better decisions.

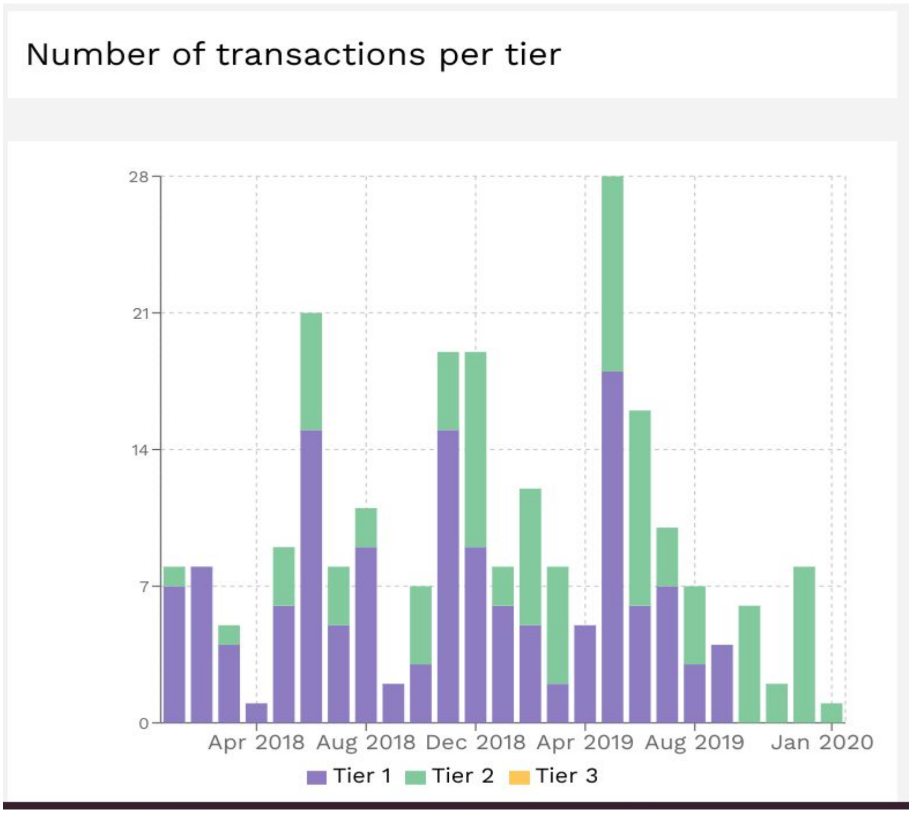
Despite this fairly extensive list, we were always looking for opportunities to develop new services. Our original offer of traceability meant that our business model focused heavily on achieving scale in order to meet our revenue projections and obscured the fact that there were other services that could also generate revenue.

One example of these included the Simulation Exercise that was the core of our FTL Pilot. As we developed the Simulation, we realised that it could be offered as a service to any client - either as a standalone service which did not require them to sign up to the platform, or within the platform itself once they had become clients. Another example - which we were unable to develop before the company closed - was that Disberse could offer pre-paid expense cards to staff that would be fully integrated with the Disberse platform, enabling the organisations to automate expense and receipt management.

Since the aid industry is very under-served, we expected to identify plenty of other business ideas in the design space that we were exploring. In some cases a new service might offer a better route to market than the core services - the Simulation Exercise offered potential clients the opportunity to assess how much they might save through using the platform, and how useful the transparency and analytical aspects of the platform might be for them, as we described in the post Simulation's what you need!. The Simulation experience also helped us to develop our ideas about how we could use data that we would be able to gather on platform and build value-added data services for clients (examples of the first iteration of these services, available in client accounts, is shown in Figure 7).

Figure 7: Sample Visualisations from Client Accounts





At the same time we needed to keep a clear focus on our core offering, and not become distracted through developing services that were peripheral in terms of service and marginal in terms of revenue. One that we discussed at length was cash distribution; aid organisations are looking for new channels, and nearly every potential client we talked with asked if we planned to provide this. Our long-term plans did include extending our tracking capability to cash distribution but our short-term plans did not; we believed that we could have more impact further up the funding chain, that cash distribution would generate relatively low revenue, and that it was a crowded market that would be difficult to enter and also have regulatory implications for us.

However the 121 pilot with Dutch Relief Alliance members presented an opportunity to implement a complete funding chain from individual donor to individual recipient. In this context it made sense to accelerate our plans, since we would not be attempting a standalone cash distribution, but a fully integrated funding chain. A successful pilot would have enabled us to include it in our offer but even an unsuccessful pilot would generate useful lessons for ourselves and others. We discuss some of those lessons in the Validation section, above; the project was definitely worth taking on, but confirmed our assumption that diversifying always requires more attention than you anticipate and should not be entered into lightly.

Technology implementation

Our experience has shown that, in general, aid organisations lack understanding of new technologies. While there may be individuals within an organisation who have both an interest in and an understanding of a particular technology such as blockchain, the organisations in general may have an interest but do not have an understanding. It is unreasonable to expect aid organisations to have internal expertise on every new technology, but there are certain technologies that they should probably focus on.

Without that expertise, internal champions will be less well-equipped to drive adoption, and internal critics will not be able to ask informed questions - which are critical for ensuring that the organisation makes sound decisions. It is not necessary to fully understand the inner workings of a third-party platform, and in many cases a company may not be prepared to share exactly how its platform works in order to preserve their competitive advantage, but it is critical to understand how the service itself works.

One trap that non-profit organisations fall into is to try to develop technology in-house. We met with a few NGOs who made it clear that they wanted to build their own financial platform, until we explained that this would require a license from their national regulator (and probably the regulators in the countries where they operated). However we also met with NGOs who had developed interesting platforms that did not require regulatory approval, at least at the early stages of their development, but would likely run into the regulator if they reached scale.

There is nothing inherently wrong with this approach, but most organisations under-estimate how much they will need to invest, not just in staffing and expertise, but also in changing their organisational culture to support the requirements of technology development. We don't have a definitive answer to the question of whether aid organisations should build in-house versus when it is appropriate to partner with a third-party, but we realised that it is difficult for aid organisations themselves to make that decision.

The simple reason for this is that organisations don't know what they don't know; if they don't already possess some knowledge of a particular technology they will not be able to make an informed decision about how much to invest in that field. It is therefore probably better for aid organisations to invest in their overall innovation expertise rather than their technology expertise. This is not simply a case of e.g. creating a position of "Innovation Officer" but creating the systems which make innovation possible. This is usually only possible at scale, for larger organisations (e.g. UN agencies such as UNICEF and WFP) and consortia (such as the Start Network) which can afford to invest in developing these systems.

The Role of Blockchain

The fact that our platform was built on blockchain was both help and hindrance. In the words of one Bloomberg article, "The most impressive trick that blockchain-in-banking advocates have performed is not making marginal improvements to the efficiency of back-office reconciliation processes. It is getting the world to pay attention to those back-office technology upgrades, and to think that they might be revolutionary."

This effect was clearly one of the reasons why finance and treasury staff took an interest in the project; although these staff are not normally involved in innovation discussions within organisations, our experience was that our technology proposition involved them in such discussions in which they were open to exploring how things could be done differently. This was true more broadly, as potential clients were prepared to explore real change in their way of working, and we believe that the blockchain proposition came at a time when there was an interest in such change.

As a result our technology profile gave us a platform at a range of different events, and many opportunities to open discussions with potential clients. However we felt that we spent too much time explaining how blockchain worked; we always felt that the focus should not be on blockchain itself, but on the services you could build on top of it. After our first year, therefore, we focused on communicating not about blockchain for its own sake, but as a means to an end - an end that we had envisioned before we even knew about the technology. This meant trying to steer conversations through this area as quickly as possible, referring to “distributed ledger technology” (DLT) rather than blockchain, and talking more about our service than our technology.

We made it particularly clear that Disberse was not a cryptocurrency project and that we did not deal in cryptocurrencies; the variation and uncertainty around cryptocurrency regulation in different countries would have made it impossible to operate. After the bubble burst in cryptocurrency markets in early 2018, more people began to ask more critical questions about the technology. We were better-placed to address these questions than other companies, since we had already built up Disberse more as a service provider than a technology platform.

However those critical questions remained. Potential clients regularly asked us what value DLT added in practice - and this was also a question that we continually asked ourselves. In particular there were questions about whether total decentralisation was inherently desirable in financial services, which was a question we had already answered for ourselves. Although we began as a “blockchain startup”, the beta version of our platform was a hybrid architecture which combined DLT as a base layer for data storage and transaction management with a layer of more conventional service-oriented architecture to ensure service stability and met regulatory requirements, including laws on data protection.

This was the platform we used to try to answer the initial question that our FTL Pilot asked: “Can distributed ledger technology (DLT) be used to track UK Aid payments through the delivery chain to enhance transparency, increase the speed at which money flows to the end recipient, and reduce intermediary costs?” Obviously as a company Disberse already believed that the answer to this question was “Yes” - but a qualified “yes”, for the reasons given above.

Some members of our DFID Steering Group suggested that we stop calling this a “blockchain pilot” because it caused confusion; however, although our corporate view of DLT therefore changed over time, we continued to believe that DLT would provide us with a long-term competitive advantage. Our roadmap envisaged adding another distributed ledger on top of the service architecture to provide decentralised governance that would enable clients to self-manage e.g. resource allocation within self-identified networks of aid organisations. (Table 4 shows the proposed hybrid architecture of the Disberse platform; at the time of the pilots, the Oversight, Infrastructure and Ledger layers were functional.)

Table 4: Proposed Disberse platform architecture

Layer	What it does	Structure
Governance	Enables clients to collaborate to manage resources, e.g. where resources are mobilised, how they are allocated, who takes responsibility.	Distributed
Services	Supports an ecosystem of service providers that clients can connect to, e.g. a marketplace that encourages development of new services.	Decentralised
Oversight	Provides the regulatory oversight necessary to run a financial institution across multiple jurisdictions, while countering bank de-risking.	Centralised
Infrastructure	Runs all services everything across three layers: Blockchain, Back End, and Front End.	Decentralised?
Ledger	Provides transaction management and data storage capabilities.	Distributed

People trust institutions - or at least they want to trust institutions - and our potential clients did not just ask for a “Disberse platform” they could use, but a “Disberse institution” they could trust. One way we addressed this trust question was by participating in the Regulatory Sandbox set up by the UK Financial Conduct Authority, and (at the end of that process) receiving authorisation to operate as a small Electronic Money Institution (SEMI).

Being an authorised financial institution in the UK gave us additional credibility with our potential clients - particularly with finance staff and senior management - than most other DLT-based start-ups. However we recognised that this formal status was useful primarily for getting a foot in the door of potential clients; genuine trust in Disberse as an institution would only come with delivering a service of high quality and reliability.

The Role of Hype

Hype is built into the life cycle of new technologies, but blockchain seemed especially prone to hype when Disberse launched. This presented us with a practical and ethical question: how much should we rely on hype to market our services? In the end our decision was to “ride the wave” rather than to “ride the hype”, i.e. to take advantage of the interest caused by the hype, but not to generate any hype ourselves. Instead we tried to present both ourselves and the technology as plainly as we could, making it clear that we believed that the technology had weaknesses as well as strengths.

There were negative impacts to this approach. Our standing in the blockchain community, which was generally intolerant of criticism of the technology, became worse over time, and this may have had knock-on effects on our investment strategy and business development. However we believed that we had an obligation to be open and honest with potential clients, rather than trying to blind them with science in order to get them on board. We formalised this in a commitment to transparency, and translated this into a specific practice of publishing the unvarnished results of our pilots, with sign-off from our pilot partners.

Hype is frequently misleading, creating a fantasy image of new technologies which can mislead potential clients, particularly those without technical expertise. This in turn leads to hype cycles within the aid industry, with potentially negative impacts including valuable resources wasted on projects which underdeliver. Aid organisations cannot rely on the good faith of private companies: they must have deeper understanding not just about technology, but the politics around those technologies, and have more nuanced discussions about technology at the corporate level. Above all, they must become better at due diligence.

One way that aid organisations can assess whether a partnership is likely to deliver is whether a start-up team has relevant experience in the aid industry; if not, they are unlikely to be well placed to create solutions that solve the specific problems within that industry. This is something of a Catch-22, since without exposure to the industry start-ups will be unable to build the experience necessary to create appropriate solutions. In some cases, therefore, aid organisations need to help private sector actors to develop their expertise; this will be valuable for the industry as a whole because it provides access to external perspectives.

It is difficult to pitch projects that lack a certain element of visibility; for example, drone delivery is highly visible and therefore perceived as more interesting than (for example) a new financial service. It is similarly easier to pitch a B2C project than B2B project, because an end user focus creates more visibility and therefore more potential to raise funds. Finally, services targeted at “back-office” functions (such as finance) are by definition less visible; priority is often given to services for frontline operations based on this visibility, not necessarily on their impact. However one of our fundamental assumptions was that there is more potential in those back-office functions not just for greater efficiencies, but also for genuine transformation of the aid industry; we believe that this assumption was borne out by the results of our pilots and the associated discussions.

The Role of Interoperability

Lack of interoperability between systems is a significant problem in the aid industry, and one of our founders had been involved in earlier attempts to address this problem at both country and global level. Even before we developed the Disberse platform, therefore, we made a commitment to ensuring interoperability. Having said that, interoperability is not a simple issue and we explored several approaches without ever fully resolving our approach.

The approach most related to our FTL pilot was data interoperability. Within OCHA different databases track different aspects of aid contributions and expenditures, and there are ongoing internal discussions about the best way to create an integrated picture. OCHA has also invested in developing the Humanitarian Data Exchange as a way of sharing data without implementing full interoperability between databases, and we agreed to use HDX to share the data collected during the FTL pilot.

Finally IATI has sought to create a standardised approach to sharing data for the purpose of increasing transparency. We consulted with IATI representatives during the FTL pilot to understand how our service could complement the work that IATI has already done. We were able to establish that there was great potential; by design IATI only tracks activities, while Disberse is able to track transactions, and combining the different data would have improved analysis for the entire sector. By adding the functionality of generating IATI reporting from within a Disberse client account, we could also contribute to a standardised approach to reporting, as well as making it more likely that our clients would participate in IATI. Sadly we were not able to take these discussions through to implementation.

We had discussions regarding all of these, and made it clear that our development plans would prioritise data interoperability as much as possible. This was based on our belief that it was not just an ethical responsibility but also a commercial advantage for our company - both because being able to share data easily would be appealing to our clients, and because it would contribute to a wider culture of data sharing that would make available more data that we could use in our own data analysis later on.

We had a different experience with other partners partly because IATI and the UN agencies have invested more in this area than many other actors in the aid industry. Other organisations that we worked with struggled both with the tools necessary to share data, but also with working out how to build interoperability into their own systems (since usually this is a non-essential function). This speaks to a need for more investment in this area, but also indicates that there may be an opportunity for other companies and initiatives to provide improved data services to aid organisations.

This problem is not exclusive to aid organisations, of course. We also experienced significant challenges in dealing with banking partners in the African countries where we planned to work. There was clear interest in working with us on the part of the banks, but frequently their technical capacity, particularly in terms of API provision for service interoperability, was more limited than we hoped. This is not limited to developing economies; as mentioned elsewhere in this report we had begun to explore how to implement Open Banking standards, but there is consensus that Open Banking has not been taken up as widely as hoped. (This is likely to change as legislation such as the EU's Revised Payment Services Directive exercises wider influence in the future.)

The final approach we explored was the creation of an ecosystem of innovative financial services for the aid industry, made more accessible to more stakeholders through Disberse acting as a backbone. As part of our decentralisation strategy, the plan was that Disberse could act as a platform for service providers and users to connect with each other. This would address the major problem of discovery; if an NGO is interested in exploring micro-insurance for the communities that they work with, it is difficult for them to find trusted providers to work with, and creating a network which made this easier could have accelerated innovation within the aid industry as a whole.

The Role of Incentives

While both transparency and decentralisation (in its guise of localisation) have both improved in recent years, these improvements have been partial. One of our working assumptions was that progress in these areas has been at least partly hindered by the misaligned incentives mentioned at the beginning of this document, and that we could encourage change not just by providing financial infrastructure that was more transparent and decentralised by design, but also by building into that infrastructure incentives for transparency and decentralisation.

- For example, by making transparency the default for client accounts, but providing tools to adjust their level of transparency, we would encourage clients to clearly address what they hoped increased transparency would achieve, and what level of transparency they could tolerate - for themselves, for donors, for communities.
- We could also explore direct incentives. We intended to weight our fees towards international actors, which would subsidise local actors on the platform; collective decision-making mechanisms on the platform would be weighted towards local actors, but international actors who agreed to participate in them would receive fee discounts. This combination of incentives could help to re-balance power between local and international.
- We also intended to distribute the nodes of our ledger across organisations in the aid industry, making them stakeholders in their network and not just clients of our service. Such participation would be low-cost for well-resourced organisations, but it would cover the costs of running the

network for the entire community, and they would consequently be incentivised to participate primarily through peer recognition.

Identifying and developing well-aligned and properly-implemented incentive structures was a key part of our strategic planning, and companies seeking to enter the aid industry should spend time working out how to use this type of leverage to move their business development forward. The aid industry itself should also pay more attention to incentives - they are crucial to achieving real change, and this has been one of the biggest oversights in previous reform efforts. While top-down reforms - incentivised by institutional donors directing money to develop and support specific policies - have their place, there is a huge design space beyond this waiting to be explored.

Report Slice 3: Lessons from partnerships with FTL and beyond

Facilitating Innovation: the example of FTL

We came to the FTL programme having already established a relationship, initially with Claire James (on secondment from DFAT), who later handed over to Antony Herrmann at the beginning of the Pilot. That relationship initially came about because individuals on both sides had identified a specific problem and were looking for partnerships that could generate solutions, but making that connection itself was a matter of chance. One strategy to creating similar partnerships is to increase those chances through different approaches.

While we did not benefit from it directly, FTL has a matchmaking function which seeks to match DFID Advisors with technology specialists and innovators, and it is clear that the aid industry needs more matchmaking in order to build these partnerships. Matchmaking opportunities can involve events - we benefited from being able to give demonstrations at side events during conferences organised by the Start Network and the IFRC, for example - but are more fruitful if they are active efforts to match needs with solutions.

FTL provided seed funding for the Pilot to a maximum of £100,000. (Referring to it as seed funding was confusing to us, as this commonly refers to early-stage equity investment in start-ups.) Each Sprint also called for some matched funding from our side, which was generally in-kind contributions; although this is a standard approach in the sector, it does not adequately capture the commitment that a start-up brings to the table, since the in-kind contributions are somewhat arbitrary and do not generally reflect the actual work.

The Pilot was a maximum of 18 months, split into Sprints with a standard length of two months. This timeline is an appropriate period for a large organisation such as DFID, particularly for Pilots which need to build internal momentum or require inter-departmental agreement. However it is a very long time in the life of an early-stage start-up, and we found it an uncomfortable fit from our business development perspective. We were concerned that, by the end of 18 months, either ourselves or DFID might have shifted significantly from our initial positions; this became even more of a concern once the announcement was made by the UK government that DFID would merge with the Foreign and Commonwealth Office.

Each Sprint was contracted separately based on DFID approval, rather than a contract being issued for the full 18 months, with oversight by an internal DFID steering group. We believed that for some Sprints, we could complete our Sprint goals in less time than the standard Sprint length of two months. Although there was some flexibility, once again we recognised that this length (and the additional interval between Sprints) accommodates DFID's internal tempo. However shortening the Pilot period would have been preferable from our perspective - to minimise the risk of a strategic shift mentioned above, to ensure the most effective use of our limited staff resources, but most importantly to keep momentum. (We recognised that once the FTL pilot ended, our business development relationship with DFID would shift to a much slower tempo.)

Secure long-term contracts can lead to complacency once the contract is secured, and Sprint-based contracting - in which a contract is not guaranteed until the previous contract is completed and the results approved by DFID - mitigates this risk somewhat, as well as lowering the risk of lock-in to a long-term commitment that does not deliver. However such risk mitigation was more in DFID's favour - since it has a much larger resource base, any risks were relatively smaller for DFID than for us - and actually increased continuity risk for us by making revenue projections more difficult, potentially creating problems with revenue flow, and making it more difficult to convince investors of DFID's commitment.

An alternative approach to the Sprint-based approach is a standard long-term milestone-based contract. Longer-term contracts usually come with higher contract servicing requirements; light-touch contracting arrangements, such as those in FTL, mean that companies can focus on developing the pilot rather than servicing the contract. It may also be difficult to define milestones in the early stages of an innovation pilot, particularly since exploration of the design space is one of the objectives, and innovation by definition requires the capacity to correct course as new lessons are learned.

The most important aspect of partnership in the innovation space is to retain flexibility on both sides; so for example, a failure to validate our initial beliefs as a failure would not have been viewed as a failure but as an opportunity to pivot which would generate lessons for all stakeholders. The FTL Hub recognises the importance of flexibility, offering support to participants to work in "new agile ways" - but it was unclear to us what this meant in practice. Facilitating innovation requires an assessment of existing capabilities and support requirements - particularly based on what stage of business development a company is at - and the nature of available support also needs to be made clear.

The most useful support is building and making available an expert network to inject additional technical expertise - including critical feedback - into the project that can be accessed on request by stakeholders. As an example, we came to FTL with a business plan and revenue model in place, and the FTL pilot was part of that plan. Other companies may be at an earlier stage, or at the same stage but without a fully-developed plan; in such cases companies may not even be aware of what type of support they need.

While the project planning methodology used by FTL was effective in framing the pilot for us, it did not match our internal business processes and therefore did not help us to identify our support needs. Part of the reason for this was our nature as a B2B company, and part of it was the type of innovation we were aiming for. The innovation typology adopted by the Humanitarian Innovation Fund identifies ‘4-Ps’, or product, process, position and paradigm innovations, each of which has different profiles and requirements. Our pilot was a process innovation with the ambition to be a paradigm innovation once we moved to live transactions with DFID and other clients.

In practice this meant that, while the impact of many of the other FTL pilots is understood to be primarily outside DFID - externally-oriented innovation - our Pilot was identified early on as having an impact on internal processes inside DFID, as well as OCHA and other stakeholders. Internally-oriented innovation requires a different approach in order to succeed; while this distinction was not something we were able to develop further, it was clear that, because of their implications for organisational processes, internally-oriented projects need greater traction within an organisation such as DFID or OCHA.

Working with Innovation Stakeholders

There was no single formula for success in our pilots, since different organisations had different structures and different cultures. Mapping the capabilities and gaps of partners is critical to creating the complementarity that is critical for successful partnerships, and is something that we hoped to implement more systematically. However our experience with OCHA highlighted some of the lessons that we identified while working with other partners in other projects.

Political Support

The importance of political support for technology innovation cannot be overstated. DFID funding and supporting the project provided political cover for us when approaching a partner such as OCHA, and later provided political capital for OCHA staff to gain support from senior management. This resulted in a scenario in which all three stakeholders win - the donor organisation, the operational agency, and the service provider - which should be the aim for any partnership.

We had high levels of engagement from all sections of OCHA during the FTL Pilot, and we believe that a key reason for this was that OCHA had been given a clear indication from the UN Under-Secretary-General and Emergency Relief Coordinator (USG/ERC) that the organisation was to engage with innovation, and particularly with blockchain, as a path to improving humanitarian response overall. It is often difficult to engage UN entities, especially for smaller organisations, but this kind of leadership position appears to clear a path for successful innovation.

While OCHA has frequently innovated in the past - for example, with the Centre for Humanitarian Data, with which we also engaged positively separate from the FTL Pilot - the ERC's leadership clearly made a difference in giving OCHA staff both the permission and the incentive to engage actively with an innovation project, even though that project was external to the organisation and not part of their day-to-day responsibility. Such leadership also reduces the strength of any potential "spoilers", i.e. individual sections or individuals within the organisation who might obstruct a project.

While such internal policy dynamics make it easier for staff to begin participating on a project, they will not continue to participate unless that project is on the right track to meet the organisation's other strategic goals. In this case OCHA did not just continue to participate in the project, but increased their commitment - for example, inviting us to present our work to the Managers of the Country-Based Pooled Funds at the global CBPF meeting in October 2019 - and our interactions with them were collegial rather than formal.

We were given guided tours of existing systems, and access to the data held in them, to explore the potential to complement those systems. Both OCHA and Implementing Partners at country level also had specific requirements which we were able to explore; OCHA country offices willingly shared their experiences in more detail than we had anticipated, and provided introductions to their Implementing Partners, with the result that we had a comfortably high response rate (30%) to our initial survey and follow-up questions. We took this cooperation as informal indicators that the Pilot addressed real problems facing OCHA staff.

Strategy and Policy

We were granted access to the CBPFs in part because OCHA had identified a specific problem which could potentially obstruct their strategic plans: they required better infrastructure to manage funds as they work towards their ambition of increasing the total value of CPBFs. The more concrete the problem that you are working on with partners, the higher the level of engagement will be.

As mentioned above, our pilots were most successful when there was clear leadership support for multiple units within the organisation to become involved from the beginning. However successful innovation requires that strategic commitment be turned into policy guidelines; while engagement with our FTL pilot was high within DFID and OCHA, including at country level, it was clear to us that there was little guidance available for staff on how to get the most out of an innovation project.

Without adequate policy on how to engage with innovation, and particularly with different types of innovation - internal skunkworks, third-party company, consortium initiatives, and so on - many staff lack guidance on how to integrate that innovation into their organisation, and the whole organisation can struggle to capitalise on that innovation as a result. The level of detail of policy guidelines will vary depending on the organisation, but one thing that was essential for the success of our Pilot was that both DFID and OCHA clearly identified whose responsibility it was to take the discussion forward.

However these people were not always the staff members who would eventually need to take responsibility for signing off - either on a simulation, a live transaction, or eventually a service level agreement - and those staff would be responsible, e.g. finance officers, are often not used to being included in innovation discussions about internal processes. Clarification of and commitment to roles and responsibilities as early as possible, and the necessary structures established to ensure those responsibilities can be carried out successfully.

Having set the strategic direction and shown the support which makes an innovation project possible, leadership once again needs to be directly involved at the final stages of a pilot - which are also the start of a longer-term customer relationship. Senior managers therefore need to be briefed regularly during an innovation pilot, not just at its conclusion, and provided with a cross-department consensus to support their final decision, and this can be best provided by the formation of a Steering Group or similar body.

Collaboration and Sequencing

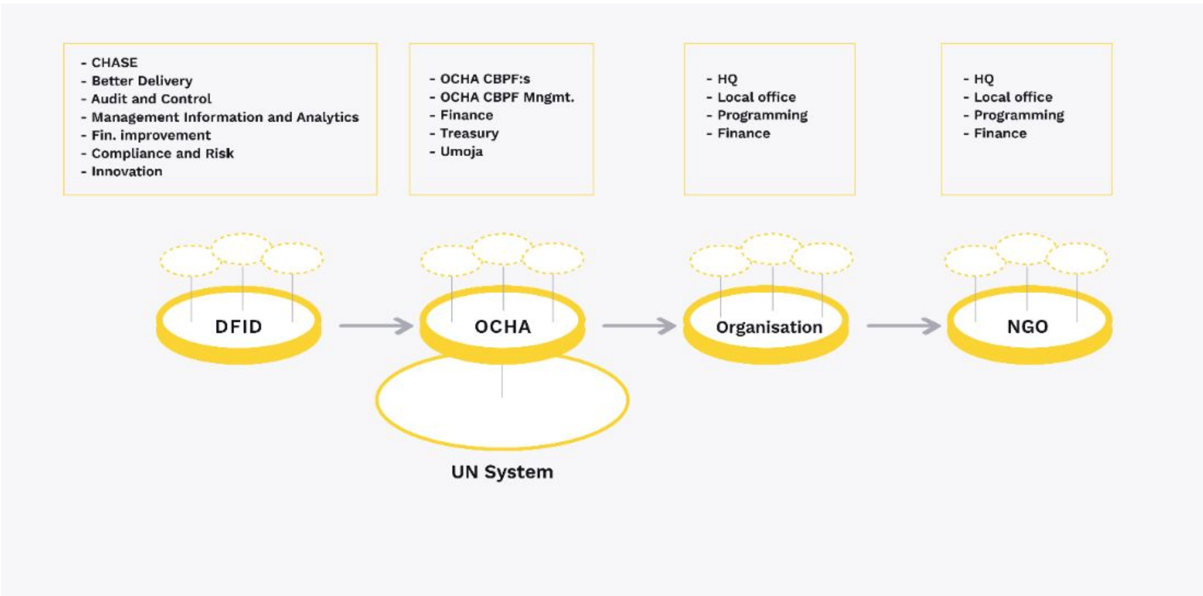
Given that we already had a plan in place, what we were most interested in from FTL was not funding - although that was of course valuable - but a structured approach to introducing our service to DFID. We believed this to be absolutely critical because, by the time we began the FTL pilot, we had already identified one of the biggest challenges facing any company: how to identify the right people within a potential client organisation, and how best to approach them.

In the early stages of building the company, we took every opportunity to have conversations with potential clients. However our own time was limited and, although some of those conversations led to other opportunities, many of them did not advance our strategy. One of the most useful skills a start-up can develop is identifying which conversations will lead to a productive partnership.

It was not until Year 2 of Disberse that we developed a sense of which organisations and which staff within those organisations we needed to be speaking with. We reached that point simply by having very many conversations, which at the time felt unnecessary but were essential in building our understanding of how our service fitted into their structure. For example most of our initial contacts were with programme staff, who tended to be the most engaged with new technology because of the potential direct impact on community impact, and who were therefore vital in generating interest within their organisation.

It took us some time but we realised that - although programme staff were essential for generating interest within their organisation - we also needed to be talking with finance and treasury as early as possible. Once we recognised this, we also realised our own responsibility as a service provider to support programme staff in initiating and developing the internal discussions needed to move the partnership forward - for example by clearly identifying which staff roles within the organisation we needed to talk to, even if we didn't know the individuals by name, and providing material which spoke to the interests of those staff (Figure 8).

Figure 8: Example Stakeholder Map (FTL Pilot)



It also became clear that ownership of a project by a single department was not sufficient; we did not just need to work with programme staff, but also finance, IT, legal, risk, fundraising, and so on. Our DFID Steering Committee brought together representatives of various departments, and OCHA similarly (but less formally) involved different units in discussions, increasing the sense of ownership within each organisation. This also helped to address another challenge: where multiple units are involved, sequencing is critical, and approaching departments in the wrong order can cause problems later, e.g. the finance department will not be happy if a new system is presented to them with no prior consultation.

Collective ownership

The experiences above showed the benefits of creating some kind of structure which can generate a sense of collective ownership (and therefore collective responsibility) for an innovation project. Even where engagement is high, however, it can be difficult to sustain interest in participating in such a structure, particularly over a longer time frame.

There are many valid reasons why engagement diminishes, or otherwise fails to come to fruition. We can use the DFID Steering Committee as an example: participation was voluntary, meetings were three months apart, members had other commitments, and in some cases membership changed as staff moved on. Our pilots were also negatively impacted by the Covid-19 pandemic and response, and - in the case of FTL - by the announcement that DFID would be merged with the Foreign and Commonwealth Office to create a new body.

Such collective structures operate most effectively if they can forge their own identity within the organisation which will enable staff to buy into a longer-term commitment that is recognised by the organisation itself. This needs to be anchored by continuous (rather than sporadic) communication, not just with the Steering Committee (or whatever the structure is called) but with individual members as well. With our FTL pilot we were directly in touch with most of the Steering Committee members during the interview stage, and could have continued to provide them with updates from our progress. It is also critical to connect the work of individual staff members to the collective success of a project, as we describe in the earlier section on co-design.

While we sensed early on that it would be difficult to maintain a high level of engagement throughout our pilots, these collective bodies were essential to help us to navigate internal systems, identify which functional units needed to be involved to ensure success, and which had ultimate responsibility for adopting a new product or service. We therefore incorporated this approach into our client pathway, with the aim of forming such a group as early as possible in all future partnerships, and ensuring that members of any such group were active participants not passive spectators.

Champions and Critics

On the client side, we recognised that time is in short supply; there is a lack of capacity to engage within aid organisations, since staff are frequently overworked and under-resourced. (This is likely to get worse in the next few years with funding contraction due to the Covid-19 recession.) The role of internal champions, who understood the value of our service and were prepared to spend their own political capital to take it forward within their organisation, was therefore critical. In the FTL context these champions are referred to as "Pioneers", and their role is particularly important in helping the pilot team to navigate through the internal structures and politics of the pilot organisation.

Not every staff member needs to be an innovator themselves, but aid organisations need to ensure that those staff who want to engage with innovation are supported properly, otherwise they will not be able to give it the attention it needs and there is less likelihood of success. (This can start with something as simple as allocating time for innovation in a job description, but should extend all the way through the organisation.) On our side, we worked hard to ensure that our "champions" within the partner organisation were well-briefed and provided with briefing material for their colleagues, as we saw them as presenting our business case within their organisation.

Innovation policy should also create space for an equally important role: that of internal critic. This is particularly true for companies that are working with new technologies which may be poorly understood within the organisation; the role of the critic is to ask informed questions, provide adversarial feedback, and keep the project focused. We were lucky in our FTL project that DFID had internal experts on innovation and blockchain who agreed to be part of the internal steering group for our project.

The Future: Engagement *and* Investment?

FTL gave us a structured approach to engaging DFID; that same approach enables DFID to engage with innovation precisely because DFID has struggled to do so in the past. This approach essentially outsources the task of overcoming the internal barriers that have hinder DFID from engaging with innovation - thus one of our Sprint objectives was to connect with and bring on board the DFID internal decision-makers necessary to move the Pilot forward, such as key finance staff. However we felt that this located "Innovation" outside of DFID and created a disincentive for DFID staff to develop their own capacity for innovation.

FTL is part of a portfolio of approaches that DFID has adopted to promote innovation - which also includes support to the Humanitarian Innovation Fund, Global Innovation Fund, and the Grand Challenge approach - making it a leader in the aid industry. This portfolio does create an enabling environment for innovation but it is not clear that these pieces fit together systematically to create a pipeline for innovative projects to reach market, which the sector is missing.

From a start-up perspective, one way that DFID could help to overcome this is by increasing its use of direct investment as a mechanism for promoting innovation. The Coronavirus Future Fund issues convertible loan notes ranging from £125,000 to £5 million (subject to match funding from private investors), particularly for businesses that are pre-revenue or pre-profit, with the expectation of a commercial return on its investment.

This requires a different approach to risk management than currently exists in the aid industry. Our experience has been that many aid organisations fail to understand the precarious situation that most start-ups are in during their early years, and also underestimate the transformative requirements of successful innovation. (We may also have under-emphasised these requirements, both to DFID and other stakeholders, in order to avoid scaring them off!) Investing in a start-up is different to contracting with a well-established company, which will have more resources and deeper pockets to contribute to the project; as a start-up, we aligned nearly half of our operational resources into the FTL Pilot, which is something that is not easily captured on paper.

Despite these difficulties, an investment approach is in line with the argument by the economist Mariana Mazzucato in *The Value of Everything* (2018) that the state is a co-creator of value which should not just passively support markets but actively shape them, and should see a return from its investment as a result. Return on investment is of course not the only measure of success, and there would need to be metrics for every stage of the process; for example generating a new idea can have a long-term impact even if the idea itself is not realised within a short-term project. The aid industry seems to be an obvious target for such a sustainable investment approach by government, particularly as it may require patient capital, i.e. long-term investment in social goods, which governments are far better suited for than venture capital.

Intellectual Property and Open Sourcing

This approach raises many questions which we do not have space to outline here, except one which we often struggled with: the question of intellectual property (IP). We were sometimes presented with contract agreements which asked us to relinquish IP rights to a client or their donor, either completely or under a “right to use” agreement. IP is a tremendously complex area, and it can be difficult even to define what would be covered by such an agreement; there is a subtle important distinction between something that is developed *for* a project versus something that is developed *during* a project, for example.

We started Disberse with a plan to open-source as much of the source code from our platform as possible, but this was a long-term plan intended to balance our commitment to openness with the practical requirements of running a startup. For example, releasing code too early could undermine our commercial advantage, and drive away potential investors who base their valuation of the company partly on IP. Aid organisations are not very experienced in dealing with these issues, and can easily create disincentives for companies to partner with them.

We never resolved this problem fully, and simply pushed back on any such requests while emphasising our commitment to open source in the long term. With the closure of Disberse now looming we are faced with a related problem: how do we ensure that the value still remaining within the company - our IP, including that source code - is released, rather than disappearing when the company disappears? To some extent this report is part of our attempt to share some of that IP - the knowledge that we have gained through experience - and we hope that other organisations - both for-profit and not-for-profit - will approach this issue more seriously and systematically in future.

Conclusion: were we successful?

This report attempts to capture many of the lessons we have learned from running Disberse, but it cannot answer the most important question: were we successful?

This question might seem strange given than Disberse will close by the end of 2020, having been unable to raise the investment necessary to move forward; from a narrow business perspective, this means Disberse was a failure. We always took a wider perspective, however, and in the long term we would not have measured the success of Disberse solely through growth in profits.

This raises useful questions about how we identify and measure success more generally for companies working in the aid industry. Although growth is vital for building a sustainable company, the reason for starting Disberse was to have an impact on the aid industry. This leads to the real question: what constitutes impact, how do we measure it, and how do we achieve it?

In conversations with potential clients (and some investors) we were repeatedly asked what our impact would be at community level. As described in this report, Disberse was Business-to-Business (B2B) rather than Business-to-Customer (B2C), and so our metrics were focused on improvements in business processes, rather than what our indirect impact on communities would be.

This is not to say that we ignored community-level impact. Our core assumption was that process improvements - in time and cost savings, and better tracking - would have a positive impact on communities. However aggregating these impacts - across multiple communities, organisations and countries - would be a meaningless exercise given the many other variables that influence aid delivery.

It seemed likely that our clients might assess our impact by identifying how improvements in their business processes led to positive outcomes for the communities they served - e.g. in increased funding, or more flexible funding - but this type of impact measurement would not be in our direct control and, given the use of different assessment approaches, would not be comparable.

Achieving efficiencies within the aid system, while a positive impact on its own terms, was in fact our way of entering that system in order to realise the potential of two other aspects of our service: transparency and decentralisation. Yet these are means to achieve particular ends, rather than ends in themselves, and the aid industry needs to clarify these distinctions before we will be able to collectively establish useful metrics for measuring progress in these terms.

The ends towards which transparency and decentralisation work imply radical transformation of the underlying power dynamics of aid, and the question of how Disberse understood "success" links to this last point. There is a distinction between proof of concept for a product or service (i.e. demonstrating that a platform functions) and demonstration of success at a strategic level (i.e. solving problems at scale). But there is a further distinction between both of these and identifying transformative impacts; for example, increasing use of cash distribution is changing the business model of the aid industry, but that change is not being adequately captured.

It should be clear from this document that the real impact that we sought was similarly to transform the business model of the aid industry. This is much more of a "moonshot" ambition than many (if not most) humanitarian innovations, and we discovered that within the aid industry this scale of ambition was difficult to grasp, since no single staff member, functional unit within an organisation, or even any individual organisation could take such a wide and long view. Regardless of the success or failure of Disberse, the aid industry may need to recognise alternative approaches to measure the impact of this type of innovation.

In the end, Disberse was not able to have the impact it sought, despite the fact that everybody agreed with our articulation of the problems and expressed their interest in our solution. We can say with some confidence that these problems still exist, solutions are still needed, and there are no other providers for those solutions as yet. Other competitors have either pivoted to e.g. digital identity, or are looking in the wrong direction, e.g. individual fundraising; these are worthwhile areas to explore, but they do not address the need for financial services that Disberse was focused on.

In particular building the organisational infrastructure needed for localisation receives almost no attention - with the Start Network as one notable exception - presumably because the industry assumes that existing infrastructure will somehow rise to the challenge. Traceability with compliance is still not addressed by either incumbents or challenger banks; we learned the hard way how complex it is to implement traceability, and established that current approaches are somewhat outdated. For example, transparency can be a management information tool, not just a donor reporting tool, and as a result there is huge scope for innovation in this area simply by approaching "transparency as a service".

The lack of visibility around these infrastructure questions (which also extends to other areas such as supply chain) creates obvious challenges; but the current lack of innovative solutions also presents opportunities, and the opportunity is clear for successors to Disberse. We hope that this document will provide some inspiration and some guidance for those successors.