BRIDGING THE GAP

How data can solve the SME funding shortfall and catalyze the future of Open Finance

TRADE LEDGER

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Small and Medium-sized Enterprises (SMEs) are the backbone of the global economy, providing the lion's share of employment and driving growth and productivity. However, they do not receive the funding they need to realize their full potential, resulting in massive economic opportunities missed.

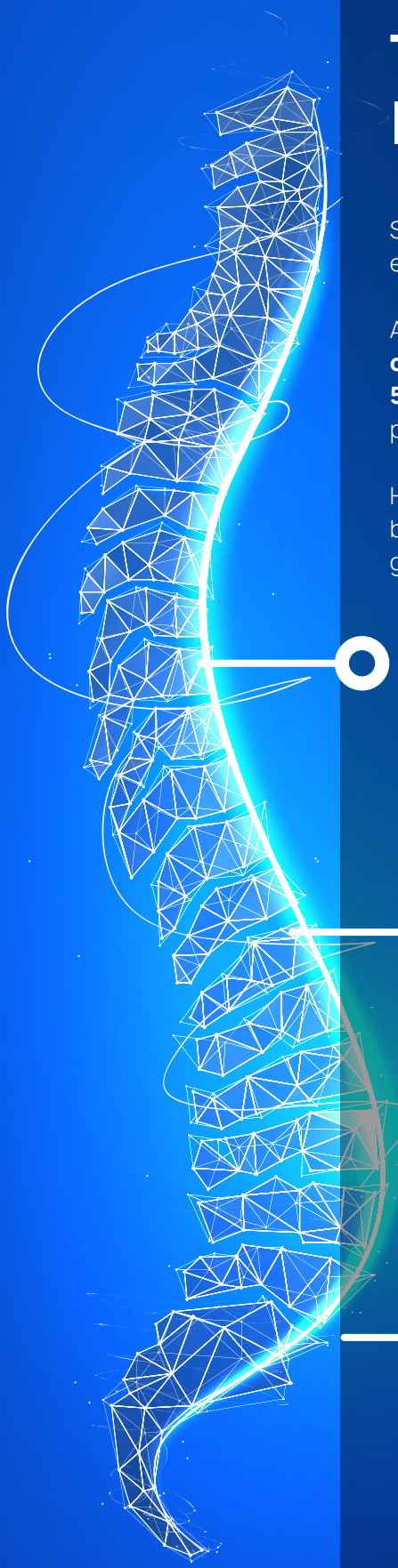
The answer to the SME funding gap is here and it is called data-driven lending. As our economy digitizes, the amount of data and the number of data sources proliferate. This additional data gives lenders the opportunity to overcome historical data asymmetries between lenders and borrowers. As a consequence, both parties can **make better informed, quicker, and better-priced lending decisions**, which - in turn - helps bridge the persistent SME funding gap.

In addition, the smart use of data enables lenders to better tailor lending services to their customers' needs, as well as anticipate these needs and proactively recommend suitable services.

As a prerequisite to data-driven lending, financial services companies need **an active data strategy**. This requires them to carefully consider the data sources they have available, how they plan to acquire them, and in what format - especially if they want to **draw insights across multiple different data sets** and establish a common data language. Contrary to popular opinion, big data - or a data lake - is not the answer here, business lending data needs to have specific attributes and be enriched for these very specific use cases.

If financial services providers can put in place the right data infrastructure, then the prize holds the potential to extend beyond just better services at greater scale. This strategy is essential for capitalizing on what we call **Open Finance**, the easy exchange of financial information across a broad ecosystem of partners.

Open Finance is already creating new economic benefits from the richer insights across a customer's full commercial and financial life and new business opportunities that arise from being part of a thriving ecosystem. But the main driver for customers is the convenience of having their finance solutions embedded deeper into the fabric of their life and preferred interaction channels.



The realities of the SME lending market today

SMEs are the engine of growth and employment in most economies, but their lending needs are not treated as such.

According to the OECD, **small business and mid-sized corporates account for 70% of employment and between 50% and 60% of GDP.** They are also the key drivers of productivity.

However, notwithstanding their critical economic role, these businesses do not in aggregate receive the necessary funding to grow and prosper.

SMEs are the backbone of the global economy

(70% of jobs, 50%+ of GDP).

But they struggle to get access to the funding they need

(30 hour application process, 57% of applications abandoned or declined; 90 day wait for funding when approved).

This results in chronic underfunding

(a funding gap of between USD1.5trillion and USD5.4trillion).

Sources: OECD, World Bank, Asian Development Bank

Estimates for the size of the **business lending gap** vary, but what is clear is that the problem **is significant and systematic**. Depending on the markets and whether or not micro SMEs are included, the funding gap is put somewhere between **USD 1.5 trillion and USD 5.4 trillion globally** and growing.

There are chiefly two reasons for this persistent and swelling lending gap. First, **high onboarding and servicing costs** make it uneconomical for many banks to lend to this prolific business sector. The situation is worsening because of higher regulatory costs and increased capital requirements. Second, the banks that do lend to SMEs **favour those who can collateralize physical assets**, which excludes increasing numbers of SMEs whose businesses are intangible – both in the services they provide and the assets they hold.

> The adverse consequences of credit constraints are particularly severe for firms specialising in digital and other 'intangible' activities
>
> **OECD**

Even though the economic and societal costs of this funding gap and the opportunities foregone are dispiriting, there is good news. The advent of data-driven lending is effectively tackling the challenges that fuel the lending gap

What is data-driven lending?

Digitization has come to represent so many things that it risks meaning nothing. To Trade Ledger™, digitization refers to **two major economic shifts**.

The first is **the dematerialization of physical goods and services** (like DVDs or cash), which allows them to be produced at almost zero marginal cost. Even when goods remain physical (like clothing), companies can sell them through digital channels at almost zero marginal cost.

The second -and related - phenomenon is that, as our economy dematerializes and moves online, everything is recorded, giving rise to a **constantly growing stream of data about our economic lives**.

In the context of augmented data flows, digitization is how **lending is transforming to bring supply in line with demand** as well and fundamentally reimagining customer experience along the way. We call this **data-driven lending**.

ESSENTIAL CONCEPT:

Data-driven lending is the process by which a lender meshes together different digital datasets to get a much clearer understanding of a borrower future finances, both in terms of their risk profile and needs, allowing the lender to make better decisions faster, tailor its services to meet a specific use case, and fulfil solutions at lower cost and better CX.

Let's look at two aspects in turn.

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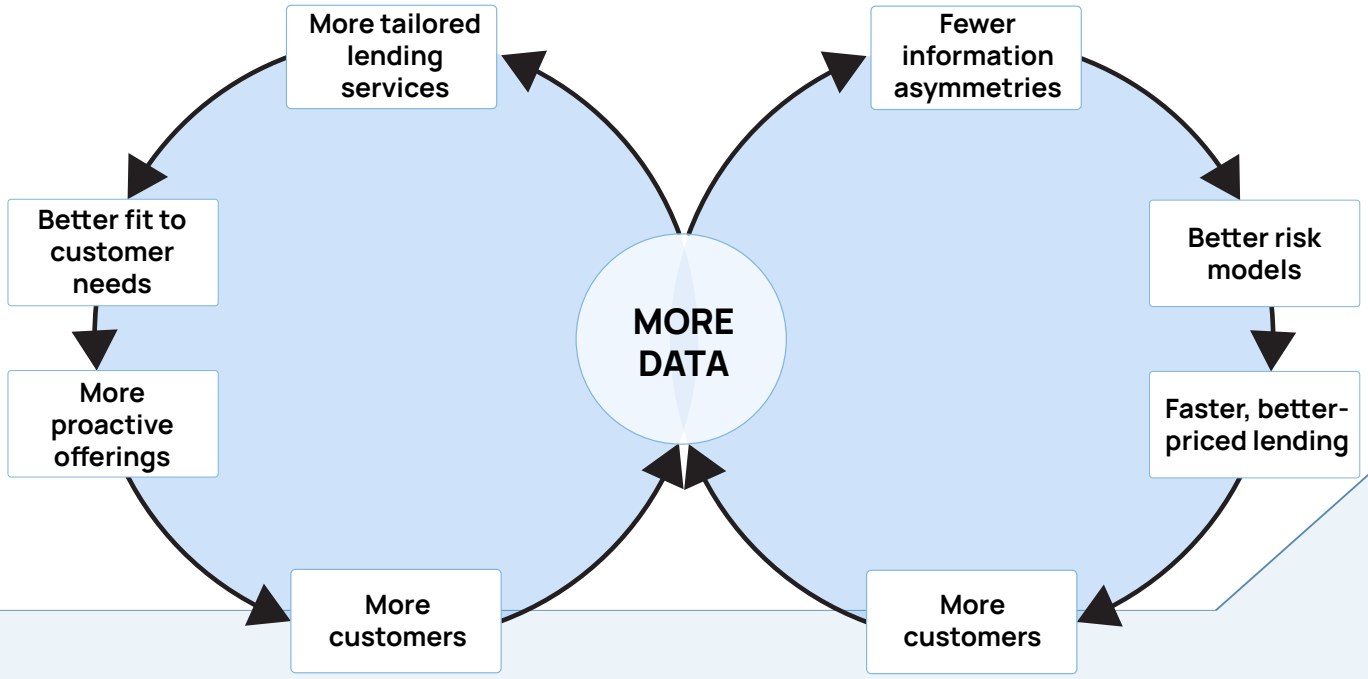
Today, there is a significant **information asymmetry between a borrower**, who has a real-time, near complete view of their business performance and position, **and a lender**, who has to piece this together using partial, historical information sources. But this inequality doesn't have to persist.

There's **more and more real-time information readily available** (e.g. accounting and logistics data) the lender can access to bridge this asymmetry and get to a faster, better, cheaper decision about whether to approve a loan for a given business or not.

Furthermore, **all assets, tangible or not, become data streams** because the arbitrary distinction between physical assets (like buildings), which could be used as collateral, and intangible assets, which could not, is blurring. Take the example of a tractor fitted with a smart sensor to track its location, how many kilometers it has driven, and its immediate resale price. Or an invoice whose underlying conditions in regard of the debtor can easily be confirmed by estimating their creditworthiness and likelihood of paying. Both examples give the lender **adequate data to decide quickly** whether to lend against these assets, and at what terms.



The second aspect of data-driven lending is **the extra information a lender can receive about the borrower themself**.

Historically, borrowers have been appraised using backward-looking and incomplete information and they've also been assessed for traditional products based on their current needs. This is now changing too.

Once the lender has access to more information about the borrower, they can tailor lending services to the individual borrower's needs. For example, they can agree to a bespoke term or a bespoke fee, creating a customer segment of one. In practice, it would be a matter of combining different loan products (e.g. part-secured on equipment and part-secured on invoices) in order to meet the borrower's full requirements. Moreover, the lender can evolve to **anticipate a borrower's needs**, likely before the borrower, and **proactively recommend the right lending services**. This is opposed to responding to an ex-post request from a borrower who often ends up incurring financial or business penalties, such late fees or having to turn down business, before getting a response.

The promise of data-driven lending

It is clear, then, that, **armed with the right data, lenders can make better informed and faster lending decisions against a broader range of collateral**. In turn, this can significantly increase the supply of credit to the SMEs. In addition, because they know so much more about their clients, the flow of credit not only increases and they can also offer the right lending services - at the right time - to **match the borrower's exact needs**.

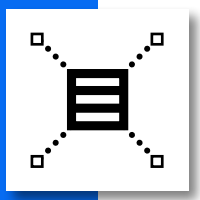
This is the promise of data-driven lending: to **make lending more abundant and more tailored**.

To reap the benefits of data-driven lending, financial organizations must look at the underlying data requirements: how they acquire data (of the right quality) and how data-driving lending can catalyse bigger changes in the structure of financial services.

Data acquisition and quality

The universe of data sources is simultaneously growing and becoming easier to acquire.

To give a comprehensive view, let's look at **building the critical foundations for data-driven lending**, namely: the data sources; the data acquisition method; the data formats; and, the data schema or semantics. We'll look at each and explain why they matter as well as provide some actionable takeaways.



The data sources

The good news is that the digitization of our economy is leading to an explosion in data and data sources. In the lending market specifically, two drivers are particularly important.

The first is **the growth in cloud-based accounting systems** such as Xero, which has almost 2.5m users today. They can provide real-time accounting information to lenders, accessible through Application Programming Interfaces (APIs).

The second is **open banking legislation**, enacted in some form in over twelve jurisdictions today - including across the 27 member countries of the European Union. Open Banking provides an obligation for financial services providers to share customer data when a customer requests it, **making data more portable**.

In addition - and in general - many of the data sources lenders rely upon to make credit decisions, such as paid-for bureau information or government data, are now available in increasingly standardized formats, which makes them easier to consume. So, as depicted below, the universe of data sources is simultaneously growing and becoming easier to acquire.

The bad news is that this growing and more easily accessible data universe is open to everyone, lowering the barrier for new entrants. Another consequence is that it's tilting advantage in favour of newer players with more modern data acquisition methods and standard data schema (such as alternative lenders) as well as players that combine these new data sources with other proprietary data sets (such as the big tech platforms).

Prospect Customer Lead Data

To be investigated

Social Media, LinkedIn, Twitter

Government Data

Statutory accounts
Tax balance & codes
Company details
Sanctions / FCC / AML

Used for:
Tax History
Fraud Checks

Bureau Data

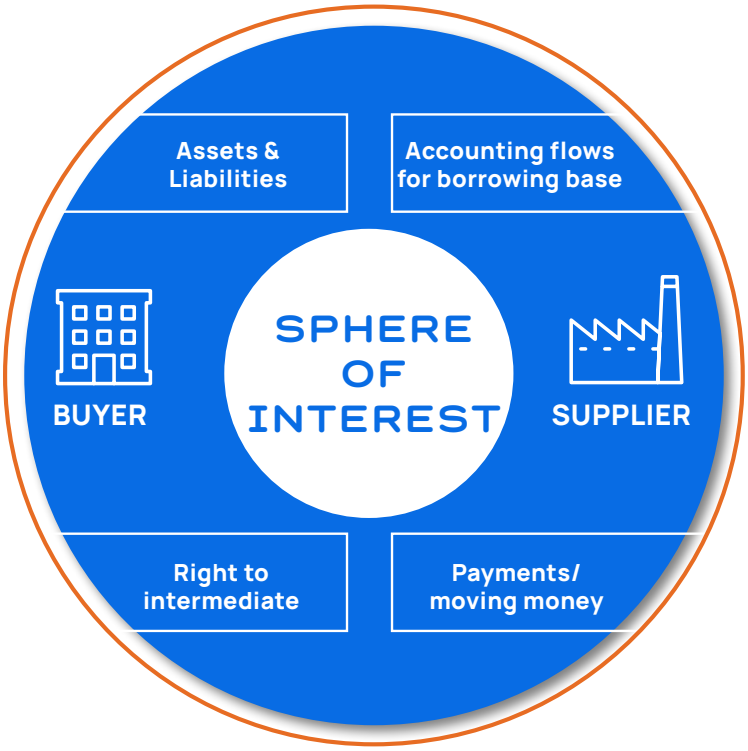
Beneficial ownership
Contra trading
Company structure & ownership
Credit rating
Adverse credit notifications
Bad news & social media checks
Company details & unique IDs
CCJs etc.
Industry type
Trading history

Used for:
Credit Health Check,
Company Background

Bank Transaction Data

Remittance information
Banking transactions
Bank account details
Payment method / mode
Account type

Used for:
Cashflow History
Lead Generation



General Bank Data

Credit risk rating
Reg or sanction details
FCC
AML
Country risk
Company identification details
Existing bank limits
RWA Calc

Used for:
Company Background
Credit Health Check

Accounting Data

Sales ledger Summary
Invoice summary
Invoice line items detail
Credit notes
Adjustments other (e.g. Duplicate invoices)
Company identification information
Journal entries
Trial balances
Debtor details
Discounts
Purchase ledger
Banks accounts details
Banking Transaction

Used for:
Financial Health Check,
Trading History,
Increasing of customer experience

Payables Network

PO's
Company details
Master supplier data
Counterparty details
Contract
Invoice
Payment terms (& rules)
Projected settlement dates
Trade terms
Trading history

Used for:
Trading History

Trade Credit Insurance

Unique company Ids
Insured limits
Insurance Ratings
Policy conditions
Company Financials
Credit models & scores

Used for:
Credit check

Shipping & Logistics Data

Logistics data
Shipping docs
Telematics
Inspections / quality data
Certifications

Used for:
Trading History

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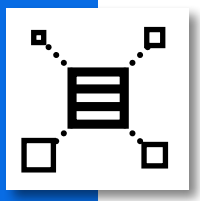


The data formats

Not all data is created equal.
The value of a given data set defines how much weight it carries when making a credit decision or in understanding the customer's needs. Beyond that, it's also determined by the data's format (discussed here) and how the data is acquired (next section).

	Structured	Semi-Structured	Unstructured
Searchability	Easiest to Search and Organise.	Less easy to Search and Organise.	Less easy to Search and Organise.
Consistency	Consistent, Standardised.	Some Consistency.	Not consistent, not Standardised.
Ability to Map, from source to system	Direct mapping possible.	Some mapping possible.	Direct mapping not possible.
Examples	Accounting data, Financials. Name, Address. Time and date-stamps. Location data.	Email, a combination of Structured (Sender, Receiver), Unstructured (Text in Subject, Body).	Text in documents. Photo, Videos. Presentations. Websites.

In general, the less structured it is, the less valuable data becomes.

There are plenty of reasons for this but, in general terms, structured data is easier to search, organize, and activate (see data schema section). It's also more consistent and easier to validate directly to the underlying data source as true.

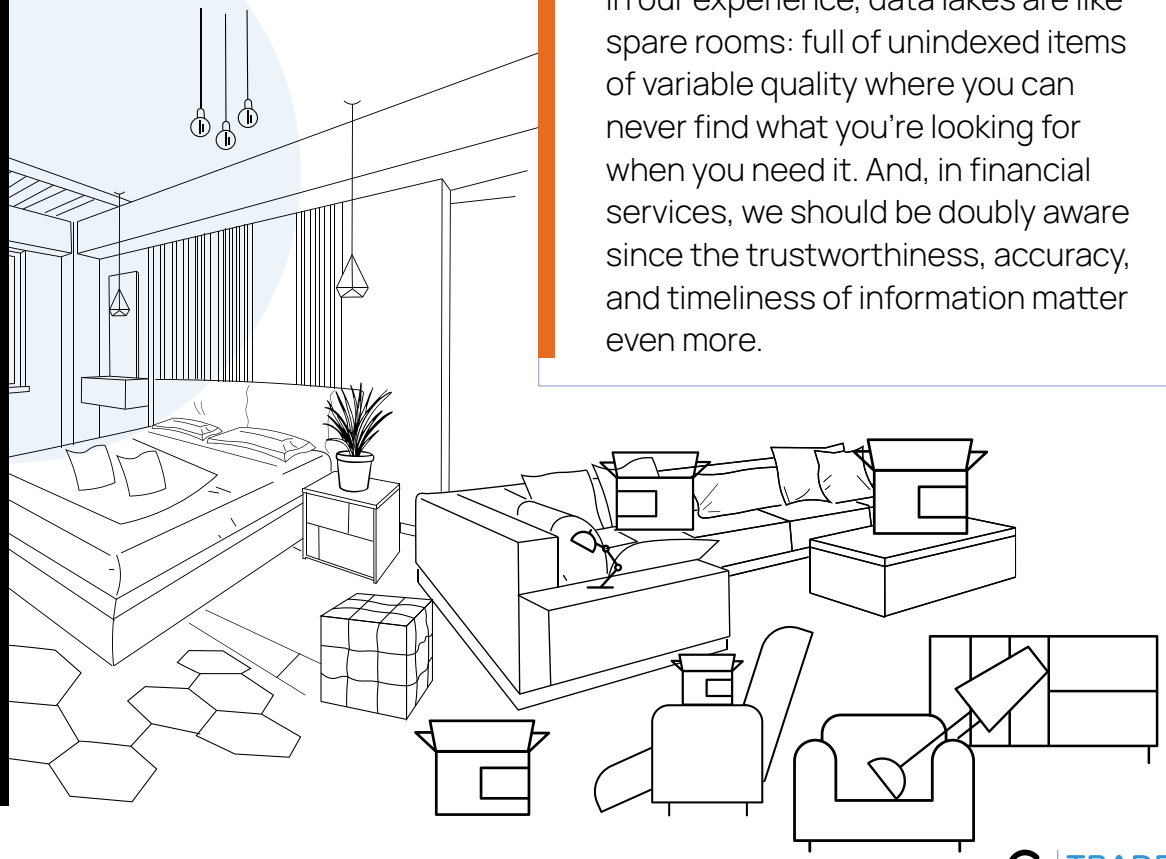
This last point is critical. As all of us know from having applied for various financial products, financial services providers continually ask us to upload documents such as bank statements or financial accounts. The problem with documents is that they could've been doctored - whereas information obtained directly from source does not pass through any intermediary and contains valuable meta-data such as timestamps and the identity of the record creator. What's more, information received directly from source in a structured manner won't be prone to transcription and handling errors, while information transferred from a document might contain errors. This brings us to the subject of data acquisition.

BEWARE THE DATA LAKE.

So many of the strategy consultant papers written about data refer to the concept of a generic data lake. Presented as a panacea, the data lake is depicted as an opportunity for an organization to have their cake and eat it. The concept involves throwing together all types of information – structured and unstructured – into a common pot which they can then query at will to generate meaningful and actionable insights to transform customer outcomes.

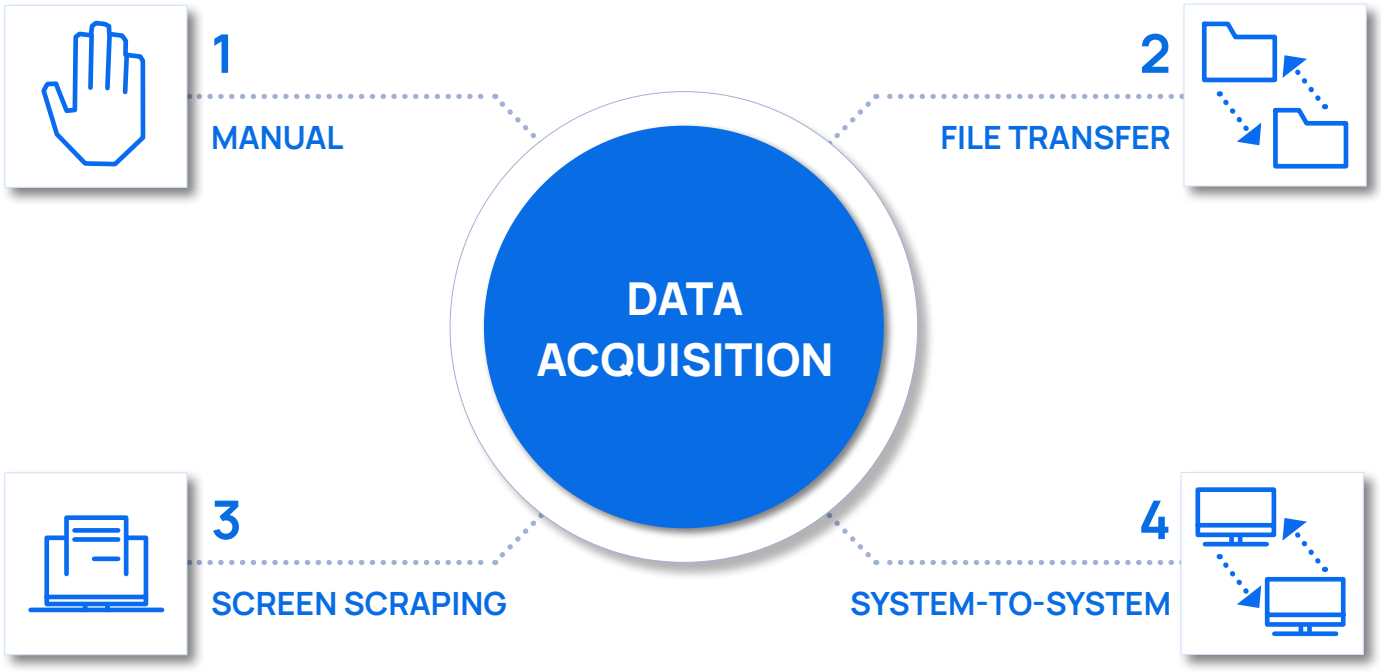
Beware of this illusion!

In our experience, data lakes are like spare rooms: full of unindexed items of variable quality where you can never find what you're looking for when you need it. And, in financial services, we should be doubly aware since the trustworthiness, accuracy, and timeliness of information matter even more.



Data acquisition

Financial service providers can acquire data from different sources using various acquisition methods. We identified four primary data acquisition channels visualized in the diagram below:



The most effective and reliable method one is system-to-system acquisition since it provides **the highest level of data quality on multiple dimensions**. The caveat here is that not all data formats can be accessed this way easily and there is great variability from market to market depending on their level of digital sophistication – it also depends on how advanced lenders, particularly their technology capabilities and data maturity are.

Data schema/semantics

For SMEs and the financial institutions that lend to them, the most valuable data has high-velocity, is predictive and which provides **key inputs for making decisions, for risk underwriting or customer servicing**. It's also the type of structured data that is best acquired frequently (at high-velocity) by lenders directly through system-to-system interaction.

Beyond the data's value, type or acquisition method, its ongoing usefulness depends on **how it can combine with other data sources to build a more detailed picture of the customer and their creditworthiness**.

To achieve this, a lender needs **a common semantic standard**, a common data language. For instance, two structured, machine-readable data sources may have completely different definitions of key terms, such as a "customer address" - which could be 3 fields in one data set and 5 fields in the other. Without this common schema or semantic layer, it becomes hard to merge data sets and this is a challenge you must engineer out from the beginning or your data-driven lending efforts will fail. This is also another reason why a data lake is not the answer.

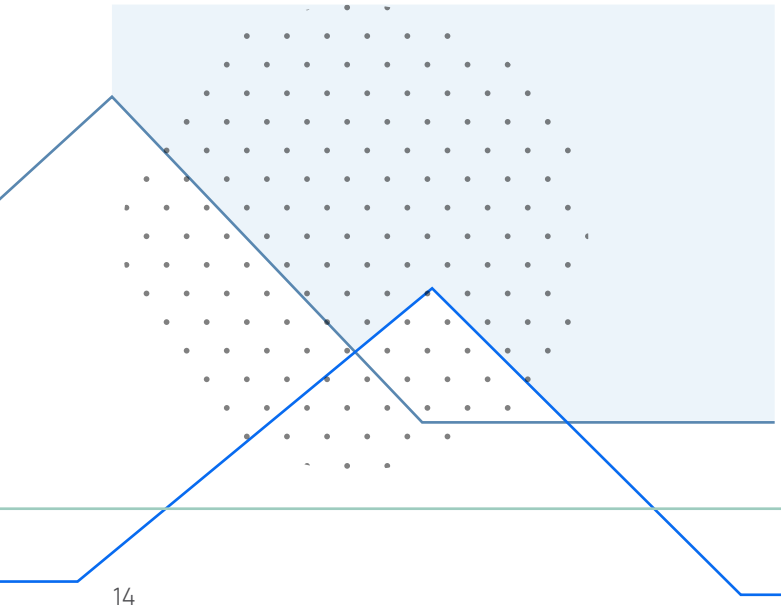
Our recommendation is that the lender establishes a **master data record strategy** with an agreed-upon definition for all key terms and a clearly understood way of conjoining data. Propagating this throughout their different data sets by mapping them against the common data language creates a robust foundation for data-driven lending. Very few lenders have ever figured out how to engineer a data layer to this level of lending data optimisation.

From Open Banking to Open Finance

So far in this paper, we have talked about **the promise of data-driven lending** as well as **the data requirements to make it a reality**. In this last section, let's consider how data-driven lending can catalyze a broader shift - from Open Banking to Open Finance.

We think about Open Banking as being a government-led initiative to put customers in charge of their data and enable data to flow more freely among participants in financial services. In turn, it aims to increase competition and improve customer outcomes. It's a well-intentioned piece of legislation that, together with broader digital trends, has contributed to making more data available, but - in our view - it doesn't go nearly far enough.

What we would like to see is **Open Finance**, the free movement of all customer data – not just account information – across an ecosystem of partners. We see this free data flow capable of not just lowering barriers to entry, but also resulting in better services delivered at greater scale, **embedded into the most convenient distribution channels**. The resistance to achieving this vision is security, in particular the perception of greater fraud. While a very valid concern, the technology exists to make Open Finance lower risk through real-time monitoring and fraud analysis methods – but this is complex and few lenders have the enterprise tech and data analytics skills required.



Return on trust

If Open Banking gave customers **the option of sharing their banking information** with other providers, GDPR reinforced **the importance of their consent** in doing so. Essentially, GDPR is helping crystallize what many consumers had already realized: that their data is valuable and they should seek something in return for it. Furthermore, it's helping people understand that once they share their data, it's out of their control.

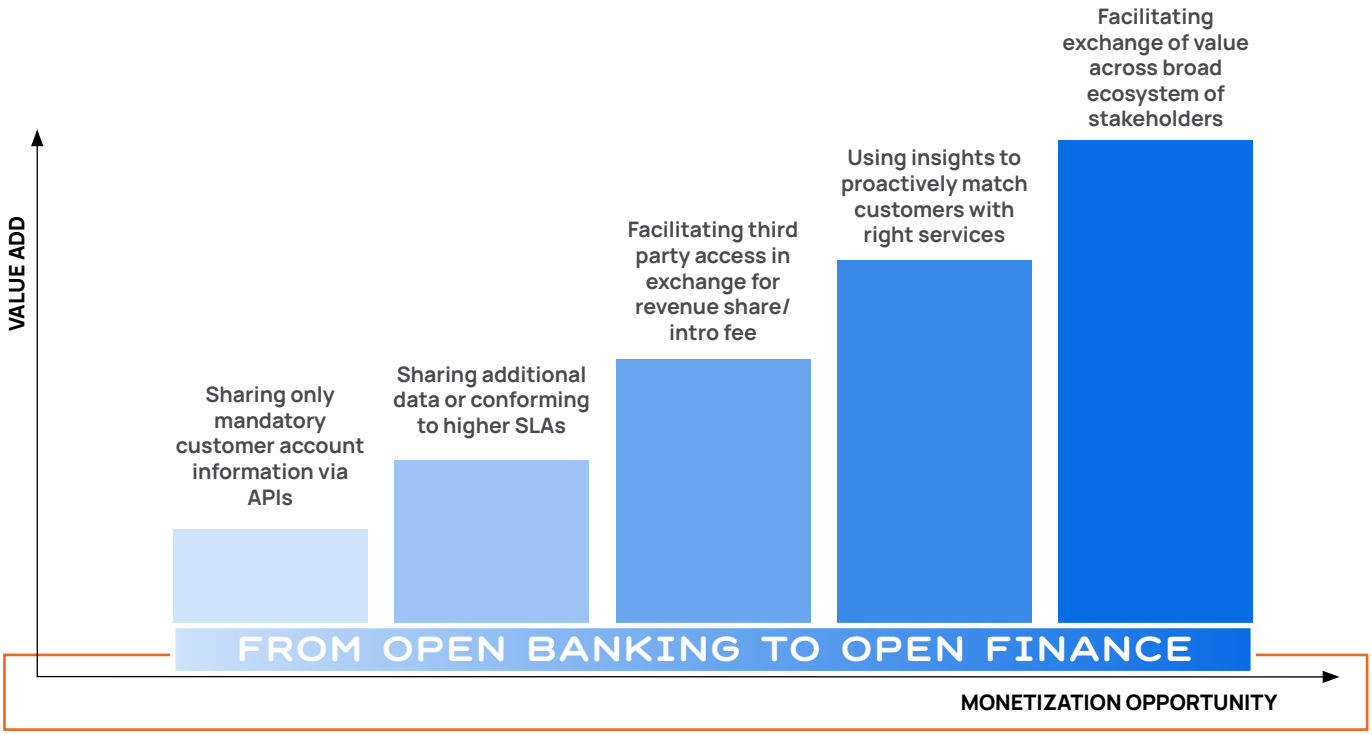
Here is how we see the context evolving:

1. We will move to a situation where customer data is not universally shared but rather where consumers provide **read-only access to limited aspects of their data** to specific third parties they trust, kind of like a personal API
2. **The yardstick for giving access to this data will go up over time**: customers will demand an ever-greater amount of value-add in exchange for their data.

For the financial services that get this critical evolution in data rights a virtuous cycle will form.

In the beginning, customers will share more information in order to bridge information asymmetries and get **access to better-priced banking services**. With this extra information, financial services will be able to go beyond just banking. They will be able to give the customer valuable insights into their commercial affairs, helping them make smarter decisions and introducing them to valuable third-party services.

For the financial services companies that get this wrong, the going will get very rough. If they cannot turn more data into better risk models, they will lose market share. More importantly, if customers stop sharing data, they won't be in a position to provide those additional insights, further discouraging data sharing. Predictably, a vicious cycle will ensue.



Ecosystems

The potential to launch data-driven ecosystems will multiply under Open Finance.

With much better insights into customers and their financial needs, it will be easy for financial services companies to recommend the most suitable and best-value services for customers that exhibit an unmet need.

Over time, we envision that the interaction will move from one-to-many to many-to-many. Open Finance can **facilitate interactions with all of the players across the supply chain** – lenders with lenders, businesses with business – which will broaden the range of opportunity for value creation rather than just facilitating useful introductions.

We expect such many-to-many interactions to give rise to new meta services across financial services as well as create an **intra-network marketplace for business services**.

Embedded finance

The other change we expect from the move to Open Finance is for **financial services to be embedded in other channels with higher engagement.**

Data is about better decision-making and better insights at scale. Even though it leads to higher engagement, it will be difficult for any financial services to generate the same level of engagement as communication channels rich in social network effects. As a result, we believe that financial services will become embedded in the channels with the highest engagement. Rather than trying to instil high engagement into their own channels, financial organizations can focus their resources on tapping into these new distribution channels.

That does not mean, however, that financial services companies will automatically become dump pipes - as many predict. Instead, as discussed throughout this paper, those financial institutions able to provide customers with a high level of return on the data will become more relevant and inspire high loyalty, although their client interaction may be intermediated through a third-party channel like Slack.

In fact, data-driven banking will be the only way to sustain this loyalty when banking becomes embedded. Otherwise, financial service companies will lose distribution and they will become order-takers.

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