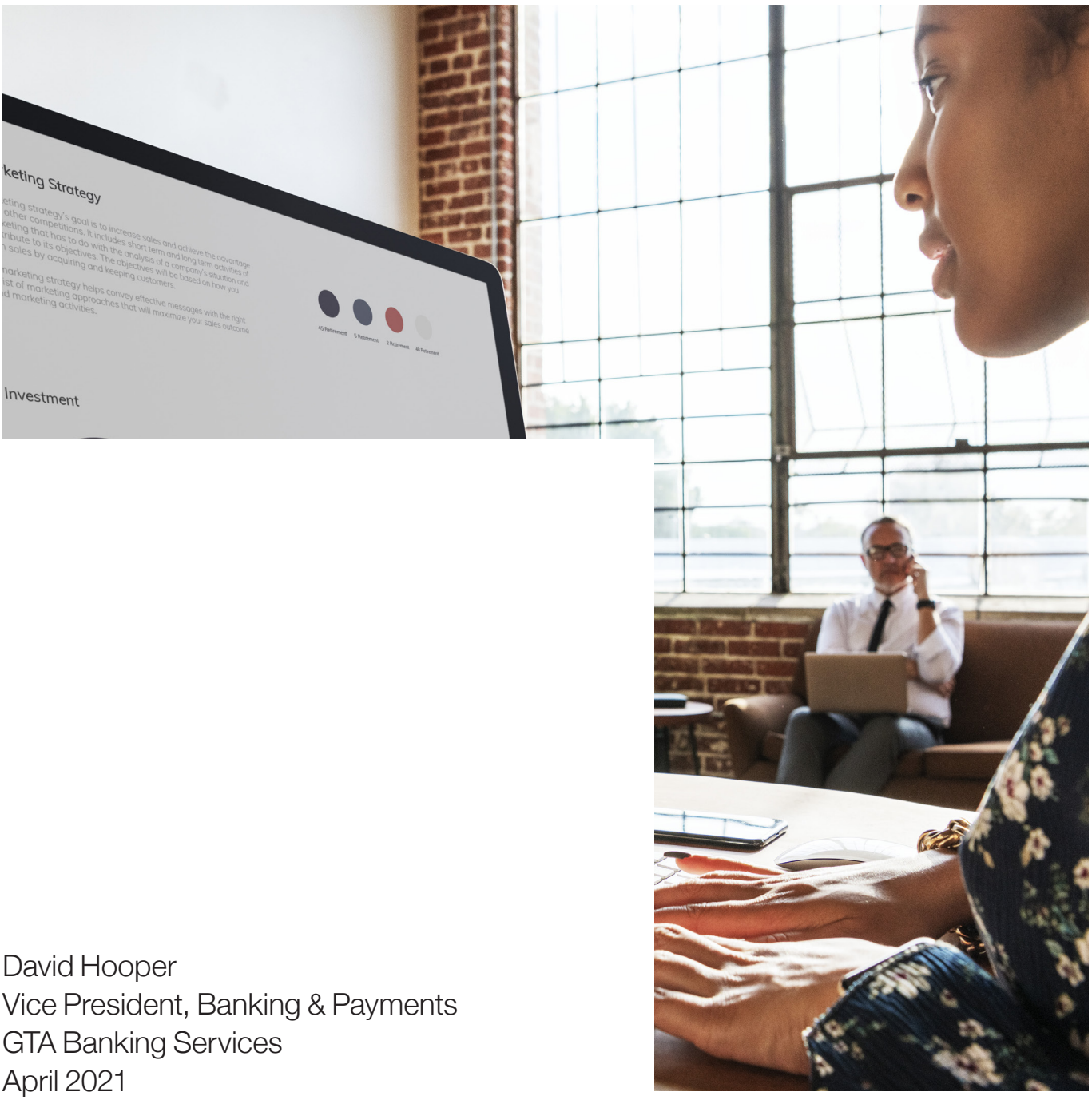

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Open banking for consumers

A view into consumer-directed finance and the art of the possible in Canada

CGI

What is “open banking”?

In the simplest terms, “open banking” is an outdated catch-all phrase for several things:

The sharing of financial data via APIs

The opening up of data access to third parties

Consumers’ ability to have control over their financial data

The introduction of new products and services that will remove friction and provide benefits to consumers

Why are we talking about it?

To start, we need to change the name. The term “open banking” may lead consumers to think that banks will open the vault doors and allow anyone and everyone to have unfettered access to their financial data. This is not the case.

The term now promoted by the Department of Finance is “consumer-directed finance.” Another name for it could have easily been “customer-authorized data access,” but this works as well. The reality is that consumer-directed finance will be a highly secure, tightly controlled process with consumers playing a key role.

Consumer-directed finance means a world in which consumers control access to their financial data.

The consumer will have the power to select the financial services they wish to use, as well as the service providers with whom they wish to do business. The consumer will then be in a position to grant access to specific elements of their data.

Open Banking originated from the European Union’s need to make it easier for customers to conduct business – making payments and using financial services – across all of the EU countries. New regulations were necessary to harmonize and standardize the rules and regulations between 27 countries. The result was the second Payments Services Directive (PSD2), which outlined all of the regulatory requirements.

Consumer-directed finance means a world in which customers control access to their financial data.

So, why are we talking about this in Canada? While consumer-directed finance is thriving in other parts of the world – the EU, the UK and Australia, to name a few – here at home, the Department of Finance and the Bank of Canada are calling for the modernization and a similar opening up of the financial services industry. Our regulators look at PSD2 as a blueprint for: stimulating innovation and competition; bringing lower prices for banking and payment services; increasing customer protection and ensuring transparency and security in the use of data for the provision of banking and payment services; and finally, leveling the playing field by opening up the market to new players.

Who are the key players involved?

Consumers or customers

These are people and businesses of all sizes. While the Department of Finance focuses on individual consumers, we believe it is important to remember that businesses will also be users of new financial-service offerings. We will use the words “customer” and “consumer” interchangeably in this paper.

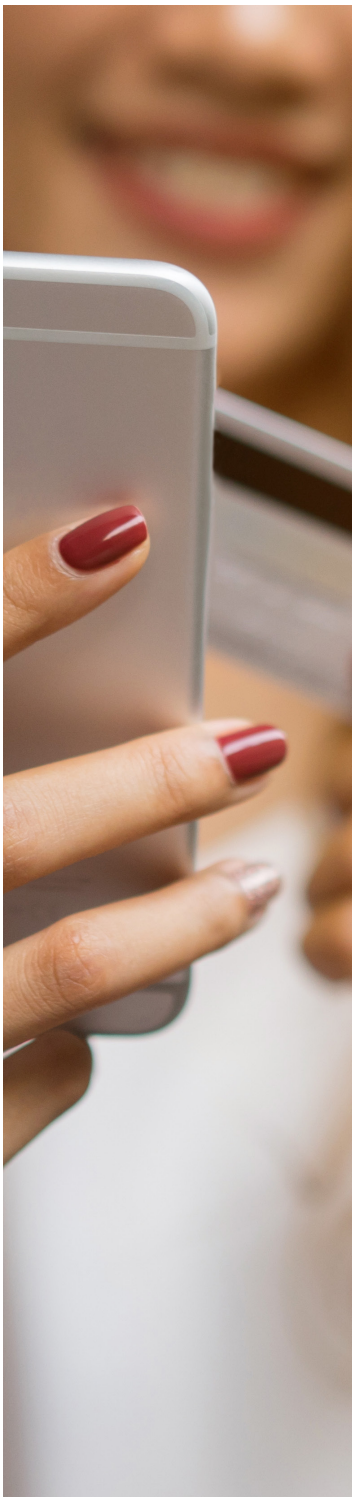
Financial service companies

These are the companies that are stewards of financial data today – banks, trust companies, credit unions, insurers, investment/brokerage companies, financial advisors, etc. They have been collecting and storing financial data by virtue of the fact that their customers have accounts with them and debits and credits flow through these accounts, or they are holding financial assets on behalf of a consumer. These incumbents have data the providers of new services require to deliver their offerings to the customer – they will be the source of financial data. These companies may also act as service providers (see below), now or in the future, and rely on financial data from other sources in order to provide their services to consumers.

Service providers

A service provider (also known as a third party provider or TPP) is any company that uses technology to access financial data to support the delivery of a value-added financial service that will resonate with consumers or businesses. They could be Fintechs (like Mint or Ratehub.ca), or Paytechs (like Shopify or Stripe), or Bigtechs (like Amazon or Google or Facebook), or other companies that participate in the provision of financial services (e.g. loyalty/reward companies or software/hardware providers). Finally, these services may be provided by existing financial services players – there is nothing stopping a bank or credit union from using financial data from multiple sources to provide new services to their customers or the market. Moreover, there is every reason for them to wish to do so!

What is financial data?



Financial data could be anything related to a customer's financial activities that is required by a service provider to deliver a service or complete an action requested by the customer.

That data will need to be shared by the financial services companies that are stewards of the data – meaning they are the ones who hold it today. Based on what we have seen globally, the sharing of data will likely begin with balance information – how much money is in a consumer's chequing and savings account, the balance on their credit card, etc. It will also make transactional information available – e.g. what debits and credits flow through those accounts, all of the bills paid, what the consumer has purchased, money transferred to relatives, deposits from the consumer's employer.

In time, this will include the balances and transactional information from a consumer's RRSP, their TFSA and their brokerage accounts (e.g. what stocks or ETFs they have bought and sold). It could even include information from a consumer's insurance policies, real-estate holdings, etc. If that data can contribute to providing a better view of the consumer and their financial state, and would be useful to the provision of services related to their financial goals and general fiscal health, then it could be considered financial data – and in the future, a service provider may want the consumer's permission to access it in order to better serve them.

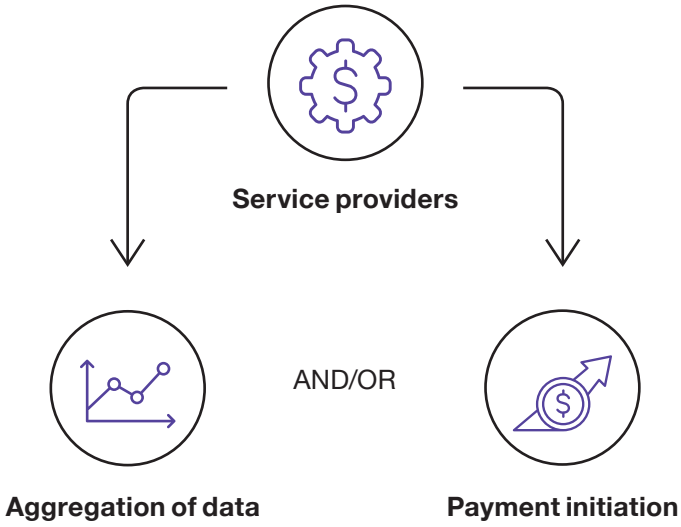
Financial data will also include basic demographic information, such as the consumer's address, phone number, email address, etc., so that the service providers and/or the financial services companies can use that information to personalize the service being offered. This information will also play a role in validating that the consumer is who they say they are and that instructions to provide access to the financial data are actually coming from the owner of the data.

Finally, there is financial service provider data that should be included as part of a consumer-directed finance framework. This includes "static" information such as branch and ATM locations and product information – for example, interest rates on bank accounts, latest mortgages rates, and features and benefits of the credit cards they offer. Service providers will want to access and use this type of information to offer market comparisons for products and services.

What will service providers do with financial data?

This is the next obvious question; the easy answer is that the service provider will do one or both of the following:

1. Collect financial data ("read data") from multiple sources (from the financial services companies) and present it back to the consumer – this is what we call "data aggregation." Once the service provider has this data, they can analyze it and provide any number of services from personal financial management (e.g. graphs and charts telling customers what they've spent their money on this month) to presenting offers for mortgages or auto financing, or credit cards, etc.
2. Send instructions ("write data") to financial services companies in order to conduct a payment or transfer money – this is known as "payment initiation."



We will discuss this in detail in the examples following, but suffice it to say that if a customer can see all of their balances and drill down into their transactions from one website or application, the next thing they will want to do is act on that information. The customer may want to pay a bill or transfer money from one institution to another, or invest their money. Therefore, at some point in time, the service providers will be able to submit instructions into the payments systems. This does not mean money is moving to them, just that they are giving the consumer a platform to see everything, make decisions and then take action.

The art of the possible

What services could be provided?

Over time, we expect there will be new services created and offered to the market. Initially, we may see the extension or enhancement of services we already have – variations on a theme. We may see different service elements combined to create a more robust offering, or we may simply see improvements to the user experience until service providers and financial services companies become more comfortable with the exchanging of data, and better understand how to use information to create new offerings.

Let's look at some examples of what we think Canadians can expect, based on what we have seen in other parts of the world.

Example #1 – Data aggregation for personal financial management (PFM) and financial health

Although there are service providers today who offer "budgeting" apps, where they collect the balances and transaction information from a consumer's financial services company (e.g. bank accounts, credit cards, etc.), consumer-directed finance offers the opportunity to perform this in a more consistent, secure (APIs), consent-driven manner than today's "screen scraping." Put simply, screen scraping is a method of collecting information from a website by extracting the readable data from a specific location (e.g. a cell located at column 5, row 7) on the page. Let us take Mary as an example. She has three bank accounts at CIBC, a chequing account at a credit union, a Scotiabank Visa, a BMO Mastercard, a mortgage at Tangerine and a PC Financial Mastercard. In order to see what is going on in her financial life, Mary has to use the online or mobile banking app from each of these financial services companies to access her accounts and see the balances and the transaction activity.

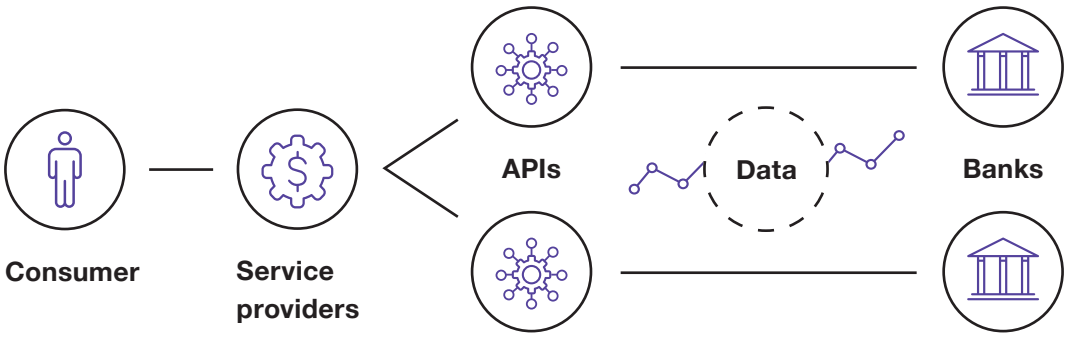
One of Mary's friends tells her about a service provider that will let her see all of her accounts from one online and mobile app. Mary goes to that service provider's website and registers to use their service. Mary then provides the service provider with some basic information – name used on the account, account number, financial institution number, etc. – and the service provider goes to each of those financial services companies and uses the APIs provided by the financial services companies to retrieve Mary's financial information.

The service provider then presents Mary with a complete view (balances and transaction details) of all of her accounts. Mary now has an easy and more convenient way to manager her financial life without the hassle of signing into multiple apps and websites.

Today, that service provider has to "screen scrape" – an unsecure process whereby the provider logs into each of those sites using Mary's user name and password to extract that data. Under consumer-directed finance, they will securely receive that information using APIs.

Mint is a great example of a service provider who does this today and will likely expand their offerings once they have better access to more financial data. Under consumer-directed finance, Mary would need to authorize Mint to go to all of her financial services companies and collect her data. Mary would also have to go to all of her financial services companies and give her consent for them to provide her financial data to Mint.

Under consumer-directed finance, Mary should also be able to set parameters for what data is accessible by each service provider she uses, as well as the length of time they can access her data. In addition, she should have the ability to change her permissions at any time. This means that under this scenario she would have to inform her financial services companies that she wants them to provide both the balances and the transactional information to Mint. Most likely, Mint will have access to



this data for a pre-determined amount of time (six months or one year) and she will be required to confirm their access at set intervals. This puts the customer in control of their data, how it gets used, who uses it and for how long. The consumer should also be able to contact their financial services companies and tell them to stop access for a service provider or change what the service provider is able to access. At some point in time, Mary may decide that Mint should only have access to account balances, so she will have to tell her financial services companies to stop providing Mint access to transactional information.

So what is this data used for? Once a PFM service provider has Mary's info, they will be able to show her all of her individual balances, as well as straightforward charts and graphs showing her how she is spending her money: how much she has spent on gas, at restaurants, on entertainment, or at her favourite coffee shop; how much money she is transferring to her relatives overseas; and how much she is spending on her credit cards. Some PFM applications will notify Mary when she has a bill due or tell her if she will have enough money to make her mortgage payment next week, or maybe remind her to contribute to her RRSP.

In general, this aggregation of financial data isn't new, but the security that will come with consumer-directed finance is! Screen-scraping apps have full access to a consumer's financial services company data because the consumer has given them their user ID and password, whereas the new secure API approach is intrinsically more secure and provides Mary with the ability to control the breadth and depth of data that can be accessed by the service provider.

Example #2 – Payment initiation

Consumers are no doubt hoping that there will be service providers to help them manage their money and accounts, no matter where the accounts are held. So now that the service provider has aggregated Mary's financial data, giving her a view of all her holdings and transactions and showing her what she is doing with her money, it is time for Mary to take action. This will become important and desirable as consumers and businesses continue to have multiple accounts across multiple financial services companies.

For this example, Mary wants to initiate a number of payments: (1) make a payment on her Tangerine mortgage, (2) pay her Bell cable and internet bill and (3) transfer grocery money from her chequing account to the household savings account. She will tell her service provider to instruct CIBC to take $1,000 out of her chequing account and make a payment on her Tangerine mortgage. She will also tell them to take $200 out of her CIBC savings account and put it on her Bell cable/internet bill. Finally, she will tell them to move money from her chequing account where her employer deposits her pay to the joint savings account she and her husband use for groceries. We would expect that Mary won't actually have to "tell" them what to do – she can set up rules to execute instructions on certain dates or when certain criteria are met, or maybe their systems will simply learn to do what she needs based on her past activities.

It is important to note that none of the money is going to, or even passing through, the service provider. The service provider is simply submitting Mary's instructions to the financial services companies from their powerful and easy-to-use web portal or mobile app. The money moves between Mary's financial services companies. If a service provider can make the tasks associated with managing a consumer's finances easy and intuitive, and

make it look great on their phone or iPad or computer, then the consumer may not need to go back to their bank's mobile app or website. If this service is valuable to the consumer, the consumer may be willing to pay a fee for the service – a monthly subscription, perhaps.

Using the example of Mint, if they could make it possible for Mary to do all of this from their app, then she will not need to sign into her CIBC or credit union online banking portal, or use the Tangerine mobile app to see her mortgage information, or use the mobile app from her Mastercard or Visa issuing banks in order to manage her finances.

It isn't that one of Mary's banks can't do what we just described Mint doing for her, it's just that they don't do it today. Nevertheless, you can bet that some of them will be doing it in the future!

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Example #3 – Analytics and recommendations

In example #1, we looked at the aggregation of consumer data for personal financial management. The next level of data collection and aggregation would be value-added services that provide recommendations and offers for the consumer.

Take credit cards as an example. Once a service provider has all of Mary's credit card transaction data, they will be able to analyze how often she uses her cards for purchases and they will see how often she makes payments on her cards, how much she pays and if she is carrying a balance. They should also be able to see what the interest rate and annual fee is on each of Mary's credit cards.

With that information, they can conduct an analysis and compare Mary's cards against other offerings in the market. They will determine if there is a credit card that would maximize the loyalty and reward points she earns (be it travel miles, travel points, money back percentages, etc.). Alternatively, they may suggest a lower-rate credit card that would reduce the amount of interest Mary pays each month or year (because she carries a balance). Or they might suggest a card with a lower or no annual fee. Or they might suggest a card that has benefits that may be of more value to Mary, like purchase protection for her online purchases, or travel cancellation insurance and health insurance, and premium airport lounge access. These types of services that can find ways to lower costs are crucial for those who find themselves in financial hardship and are "just managing" – a situation that has only increased during the COVID pandemic.

In this type of scenario, the servicer provider needs access to not only the consumer's credit card information, but the credit card fee and benefit information from the various financial services companies – most of this information is publicly available on their websites, so it should be made accessible by API.

The aggregation of credit card data for analysis and comparison against other products in the market, resulting in a recommendation is just one possibility. It doesn't require much imagination to see this type of service being offered for other products consumers view as commodities and will price shop: car insurance, bank accounts (fees and interest rates), stock investment companies (cost per trade, MER, etc.), to name a few. We have seen these types of services appear in the UK, with service providers/consumers hunting for the best rates on savings accounts.

Think of this as the financial services equivalent of what we have seen in the travel industry for years – all of the hotel and air travel cost comparison sites out there - Expedia, Travelocity, Priceline.com, etc. These travel service providers give consumers access to the latest information on hotel room availability and rates, flight costs, car rental costs, etc.

Consumer-directed finance will open the door to aggregating financial services market data and consumer data to enable cost and service comparisons that result in actionable recommendations or offers. There will also be service providers who simply aggregate the information from other aggregators. Consider Trivago – they don't go to individual hotels to get source data; they get hotel information from other aggregators who get the information from the source hotels. This could lead to service providers who can automatically move the customer to the best deal for accounts or credit cards or insurance plans by examining their spending habits and needs.

Example #4 – More value, even less friction

What else can be done to add value for consumers? The answer depends on what other data is made accessible. There are services that would require “product” data from the financial services companies in order to provide a service to consumers. This product data would be information about products the financial services companies are offering that the service providers can use to help build market comparisons.

Product information would include things like lending rates, product features and benefits, and repayment terms. We will use Ratehub.ca as an example of how a service provider would need access to product information from financial services companies in order to aggregate data, analyze it and provide more value to consumers.

Today Ratehub.ca aggregates all of the Canadian mortgage rate information and presents it to potential homebuyers so they can compare mortgage rates and find the best deal. This mortgage rate data is publicly available on financial services company websites today (and gathered by service providers via screen scraping). Under consumer-directed finance, will it be available using APIs? It should be and arguably needs to be!

If a service provider wants to analyze the credit card market and recommend a card that better suits a consumer, they will need to get information about the credit card products available from each financial services company. Examples of product information include the annual fee, interest rates, product features like purchase insurance, reward points, travel miles, access to airport lounges, cash back qualifications, etc.

A service provider like Ratehub.ca could enhance a number of their services if this product information were made available to them via APIs. It may not be included on day one of consumer-directed finance, but it is something to consider including as we progress under this new framework.

Example #5 – The art of the possible

It takes little thought to imagine extending these scenarios further to provide even more value. Today, if a consumer wants to take advantage of one of the rates presented by Ratehub.ca, they click on the rate and it drives them to the financial services company offering that rate. The consumer then fills out the mortgage application form and submits it to the financial services company. The financial services company then conducts their credit adjudication process to determine the risk that the consumer presents, and decide if the mortgage application is approved or declined.

Under consumer-directed finance, it would be possible for the service provider – the one with the great mobile app – to go to the financial services company and ask what information they need from the consumer to complete a mortgage application. The service provider can also review the information and determine if the consumer can afford the mortgage, and only then would they present an intuitive and easy-to-complete form to the consumer rather than pushing them to the financial services company to complete the application.

From a consumer perspective, the experience should be better because they are not being pushed from one website to another, each with a different look and feel and even language.

For example, Ratehub.ca is showing that Meridian credit union is offering the best five-year fixed rate mortgage. Instead of driving the consumer to the Meridian website to apply for the mortgage, what if Ratehub.ca could use a secure API to determine what information Meridian needs from the consumer? Then, Ratehub.ca could use their best-in-class website and app to collect that information and present that information back to Meridian – essentially a completed application form for Meridian to adjudicate.

From a consumer perspective, the experience should be better because they are not being pushed from one website to another, each with a different look and feel and even language. Instead, they can remain on the Ratehub.ca site and complete everything in one place.

We can take this example a step further. What if a service provider had a super-fast mortgage adjudication engine that uses artificial intelligence and machine learning to provide a response in five minutes or less? If Meridian were to make their mortgage/credit model parameters available via API, then the service provider could evaluate and adjudicate the consumer's application on behalf of Meridian, using Meridian's credit risk standards, and they could submit what would effectively be a pre-approved Meridian mortgage application!

This just might be the best consumer user experience possible. Step one: select the service provider who specializes in mortgage information; step two: view all of the mortgage rate information from financial services companies across the country; step three: receive a recommendation on mortgage product to select; step four: pick a rate and provide the required information; step five: wait five minutes to receive a pre-approval for the mortgage.

Contextualizing banking and payments

The five examples shared above highlight how enhancements to existing services and new services may be possible with secure access to financial data. These should all result in a happy consumer because a task became easier or quicker, or they were given the information required to make an informed decision.

Under consumer-directed finance, the consumer should have more options and more services available to them to help them manage their financial health. The consumer will be given more control over the services they chose to use and what data is made available to service providers. This allows the consumer to focus on their goal or objective – find a new house, buy a new car, take a vacation, etc.

They start with their goal and the banking and payments piece is secondary, albeit important and necessary, in the quest to find that house or buy that car, or find that fantastic vacation. Once they have the goal in mind, they then recognize they need to finance it or pay for it, and they begin the next step.

Consumer-directed finance and the sharing of information provides a jump-off point for merging these two steps so the process of finding a house, for example, leads directly to finding the best financing, which leads to applying for a mortgage. It should all be integrated as part of a single, multi-step task. This eliminates jumping from website to website and service provider to service provider. Having everything accessible from the same place when the consumer is ready to take the next step removes friction and increases the positive experience.

The service provider that can pull all these pieces together and help consumers to not only find the best rate, but also apply for that rate and be approved, will stand out as having the better customer experience and providing the most value to the customer.

So what does this mean for consumers and financial services companies?

Consumer-directed finance has the potential to give consumers more choice in financial-related services, the ability to obtain more and better information to make decisions, and in general, help consumers better manage their financial health in a secure, consent-driven framework.

This is what the Department of Finance and the Bank of Canada want for consumers.

Many of these value-added services will come from new service providers, but some will come from existing financial services companies.

Consumer-directed finance presents a brand new paradigm that will force strategic decisions within financial services companies regarding the source of products (their own or from a third party) and the channels that will be used to distribute those products and services (their own or from a third party).

CGI's role will be to help financial services companies and service providers work through this paradigm shift and create new strategies for product/services creation and product/services distribution. We can help create new services that will better serve consumers; however, this is a discussion for part two of this series, in which we will address what consumer-directed finance could look like from the point of view of a financial services company – more on that, soon.

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