Digital lending reimagined

The power of Capabilities as a Service

thoughtworks

Design. Engineering. AI.

The evolution of digital lending

In the first half of this decade, the world of lending underwent a sea change. The pandemic pushed a whole bunch of customers— willingly or otherwise—into the digital era. More and more consumers are not just “digital ready” but also savvy in buying financial products over the Internet.

So, it’s no surprise that online lending has grown worldwide. The global market for lending via digital platforms is expected to expand by over 20% annually to exceed US$100 billion by 2033. This unprecedented opportunity has triggered a wave of investment into, and partnerships involving, online lenders in developed and emerging markets alike, from US-based SoFi to Ghanaian fintech Fido. Underpinning this dramatic growth are multiple market trends.

3-6-3 to 3-1-0

Traditional bankers lived by the 3-6-3 formula: Raise deposits by 3%, lend at 6%, play golf at 3 PM. However, this model no longer works.

Ant Financial, the owners of the world’s largest digital payment platform, summarize this shift in their 3-1-0 system: 3 minutes to decide, 1 minute to transfer the money and 0 human touch. Their success shows that modern lenders need speed, scale and agility to be successful.

And now, Generative AI (GenAI) is poised to redefine the entire lending lifecycle, transforming each stage—from origination to servicing—by enabling faster, risk-based credit decisions, personalized customer experiences, and proactive risk mitigation. This industry-wide shift will not only streamline decision-making and reduce operational costs, but also expand financial inclusion and fundamentally reshape the lending ecosystem.

Led by people to led by tech

For a zero human touch model to work, lenders need digital-native, omnichannel, modular acquisition platforms that offer an intuitive, instantly gratifying, direct-to-customer (D2C) experience. In a world where interest rates or zero fees aren't the competitive differentiator, the digital experience a lender offers will matter more than ever before.

From product-centric lending to ecosystem partnerships

Digitally savvy customers no longer seek just instant loans. They expect their lenders to be part of the ecosystem of their financial planning and offer embedded services for their current needs. For example, a customer planning a home purchase may be happy to pay a premium for end-to-end support throughout the process, including identifying an affordable home, securing pre-approvals and a mortgage, and arranging home insurance and additional loans to cover renovations, rather than applying for each of these services individually.

To embrace this shift successfully, lenders need to transform from a financial institution selling products and services to a tech-centric, ecosystem partner fulfilling the customer's financial needs end-to-end.

This ebook shows you how.

Adapting to the evolution of digital lending

Though fintechs began the race to digital lending, large banks haven't fallen behind. In response to the shifting landscape of digital lending, modern business leaders are working to reimagine their strategies, especially to deliver on an embedded financial partnership model. Below are the levers that will offer the competitive advantage lenders seek.

Example scenario to demonstrate the new digital lending paradigm

Paolo is considering purchasing the first home for his small family. Here are some of his financial considerations.

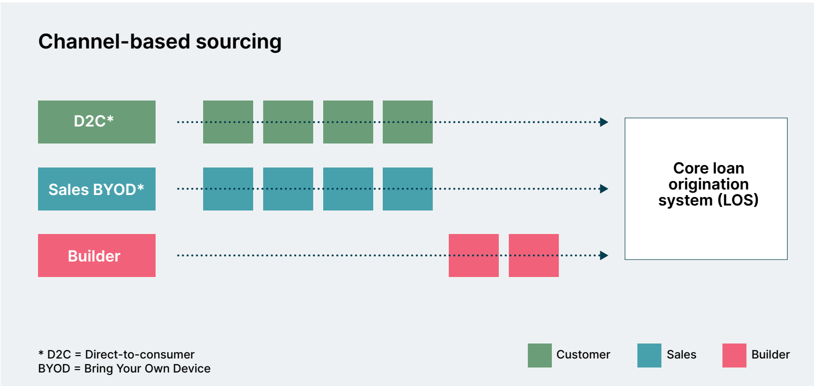
- What kinds of homes are available given our location, preferences and income levels?
- How much money will I need to provide up front, and how much will I be able to borrow?
- Will I qualify for a mortgage, and if so, what kind of mortgage best suits our financial circumstances?
- Is it worth paying to insure our home and its contents? If so, what level(s) of coverage do we need?
- How much are any renovations we want likely to cost, and is borrowing to fund them an option?
- What would happen in the event of a default? Do we need mortgage protection or other forms of personal insurance to protect the family in such a scenario?

Traditionally, answers to these questions might come from multiple places, such as a property agent for finding a home, a mortgage broker and/or bank for the mortgage loan itself, and insurers for home and contents coverage.

That's changing.

Strategic lever 1:
Omnichannel multi-actor sourcing

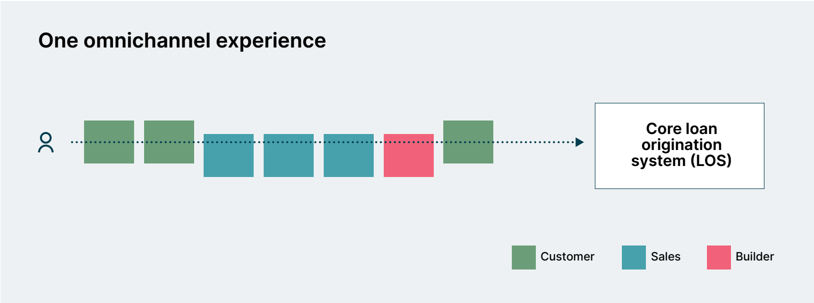
Traditionally, lenders used channel-wise sourcing, where loans are obtained through isolated channels such as branches, agents or direct online applications. The technological foundation of that would look like the following.



Traditional isolated channel-based sourcing models

This model is slowly and steadily giving way to omnipresent, omnichannel multi-actor sourcing. The multi-actor model integrates multiple physical and digital channels into a seamless ecosystem of various stakeholders. In addition to the borrowers and lenders, the ecosystem also hosts merchants and aggregators to expand customer reach and understanding. In a way, the lender or bank is an embedded financial partner within the customer's journey, wherever they might be pursuing that.

Every step in the journey will have configuration to control which actor can act on that step. For example, consents and OTP will be configured as customer only steps while document upload can be both customer and sales.



Integrated and seamless multi-actor channel strategy

Recently, GenAI has opened the possibility of a new end-to-end integrated super channel, with AI agents capable of consolidating tasks across multiple channels and personas into one customer experience. These AI agents can act as a digital sales team in loan origination by engaging prospects, providing tailored product recommendations, automating application and underwriting processes, and ensuring seamless, compliant customer journeys.

Paolo's omnichannel multi-actor sourcing journey

Property portals and online mortgage brokers are pseudo-channels for the lender to understand Paolo's home-buying plans and create a personalized offering. In the multi-actor framework, here is how channels can collaborate to fulfill Paolo's needs.

Data: Property portal will capture Paolo's demographic profile and share his search history as alternative data (with consent).

CX: In case of partner initiated leads, lenders expose APIs like submit, consent capture, instant in-principal approval, initiate sanction & disbursement so Paolo can complete the customer specific steps from the initiating portal itself. This data will flow back to the lender's onboarding journey.

Otherwise, for direct lender initiation, Paolo can login the lender's onboarding journey to complete the assigned steps. In parallel, a salesperson can complete the remaining steps like document upload on behalf of Paolo on the same onboarding journey. Similarly, the builder can also access the integrated journey to check loan status, update disbursement details. Therefore, ensuring a seamless integrated omnichannel experience with multiple actors (Paolo, sales & builder in this case)co-completing the digital journey without any to and fro between systems.

Service support: At any point, if Paolo is stuck, an assigned sales representative or a virtual assistant with access to his profile, needs and behavior so far pops up in the process to help take the journey forward.

Closing: If Paolo is not satisfied with the offer or needs more info on the pricing, he can collaboratively finalize a more suitable offer with the salesperson (or virtual agent) within the same journey and complete the application.

Strategic lever 2: Real-time personalization (not pre-defined products)

The primary elements of a lending product from a customer's perspective are:

- Eligibility criteria (income for a salaried customer or yearly revenue for a self-employed one)
- Pricing (rate of interest and any additional fees)
- Type of instrument (mortgage, overdraft, credit card, etc.)
- Repayment options (EMI tenure and mode of payment)

Traditionally, these were pre-defined as product constructs. For example, a personal loan of a certain amount would require a minimum income, a pre-determined rate of interest and equated monthly installment (EMI) calculations. To capitalize on the evolution of digital lending, lenders need to move from offering such standardized credit solutions.

The alternative? Smart personalized bundling of offerings based on the customer's context, such as their cash flow patterns, spending habits and current needs.

Similarly, by analyzing customer data, financial history and digital footprints, AI agents can suggest the most suitable loan products and terms, tailoring offers to individual needs and increasing the likelihood of conversion.

Paolo's experience with his lender's real-time personalization

Today Paolo might receive multiple calls from a lender after expressing interest through bank channels or partner aggregators.

Salesperson 1: Do you need help understanding the best mortgage options for your potential home purchase? We have a range of solutions that could work for you.

Salesperson 2: Are you planning any renovations to your new house? As a trusted customer we can offer you loans of various sizes to help offset the associated up-front costs.

New sales pitch: Finding your forever home is one of life's most important journeys, and we know it can feel overwhelming. That's why we're here to walk alongside you every step of the way—listening to your family's unique story, searching for a dream home for your family, and crafting financial solutions from loans to insurance that fit your life perfectly.

In addition to the already existing demographic segmentation (such as age, income, location and banking relationship), lenders can now leverage real-time, behavior-based, needs-based and psychographic segmentation. Ecosystem partners can help with analytics around spending habits, digital footprints and alternative data (such as social media activity and utility bill payments).

This supercharges the lender's ability to create real-time, relevant and contextual offers based on the feedback from customer actions during the journey. For example, if the customer has already made a decision about a property or broker, the lender would further simplify the customer experience by focusing more on other needs like mortgage and insurance products, and ensure these are offered in the right stages of the end-to-end journey.

As a result, you can go from "what I know" (siloed information) and "what can I offer" (pre-defined products) to "what does the customer need" (real-time personalization and embedded services).

Strategic lever 3:
Dynamic risk assessment

Currently, lenders maintain the risk and digital credit rules at the product level within a business rules engine (BRE). This serves as a static source of truth for evaluating loan eligibility and generating offers in digital sourcing.

The new embedded partnership model demands more powerful real-time risk profiling, leveraging predictive models and dynamic risk ratings based on alternative data, such as:

- Utility and mobile bill payments
- Social media behavior and digital footprint
- E-commerce transaction history
- Ride-hailing and food delivery spending patterns
- Mobile phone usage and geolocation data

This will be applicable for ‘pre-approved offerings’ for existing customers as well. Today, every product business maintains an independent database of pre-approved offers for various forms of lending, from credit cards to personal and auto loans.

In the new customer-centric approach, pre-approved offerings will evolve into real-time generation of a catalog of products and services tailored to individual customer needs. The lender’s promotions will also be more contextual and relevant to the customer based on real-time feedback—and as a result, more likely to be bought.

AI agents will use predictive analytics to evaluate creditworthiness, even for applicants with limited credit histories, by leveraging alternative data sources such as utility payments or online behavior.

As the primary relationship holder, the bank’s understanding of their customer will enable them to bring together ecosystem partners to create a bundled offering while also ensuring that the individual, organizational and overall ecosystem risk is managed with Service Level Agreements/Obligations (SLAs and SLOs).

Paolo's personalized catalog of offerings

Today, Paolo's bank offers instant pre-approved personal and auto loans (which he doesn't need).

A lender that takes the new embedded financial partnership approach will understand Paolo's housing needs and offer a catalog of services combining home search, mortgage, insurance and additional lending solutions. What's more, the lender can do this in real time, providing fulfillment leveraging instant risk profiling.

Strategic lever 4: User experience

'Ask Me Never' and 'instant gratification' are the key principles driving the user experience evolution in digital lending. Ask Me Never promotes designing user journeys that minimize requests for user input, instead collecting information from alternative sources within the established compliance and privacy frameworks. Digital public infrastructure initiatives such as Singapore's Open Data Portal and the European Union's data.europa.eu are supporting this shift.

As a result, modern loan application journeys can be WhatsApp chat-based, interactive voice response (IVR)-based, conversational experiences utilizing virtual assistants, or a combination of all of these chosen in real time, based on customer profile and initiation channel.

GenAI-powered chatbots and virtual assistants can engage users in real-time, two-way conversations using natural language—whether via text, voice, or even video avatars. This makes the lending process feel intuitive and approachable, reducing the intimidation or confusion often associated with financial products.

Paolo's unified financial services experience

In the new embedded financial partnership model, Paolo will have a unified experience of finding a home, obtaining a mortgage, securing insurance and investing in renovations or furniture to boot. He might go through the journey through apps, websites, point-of-sale systems, social media, or even messaging platforms, with the journey remaining consistent across channels.

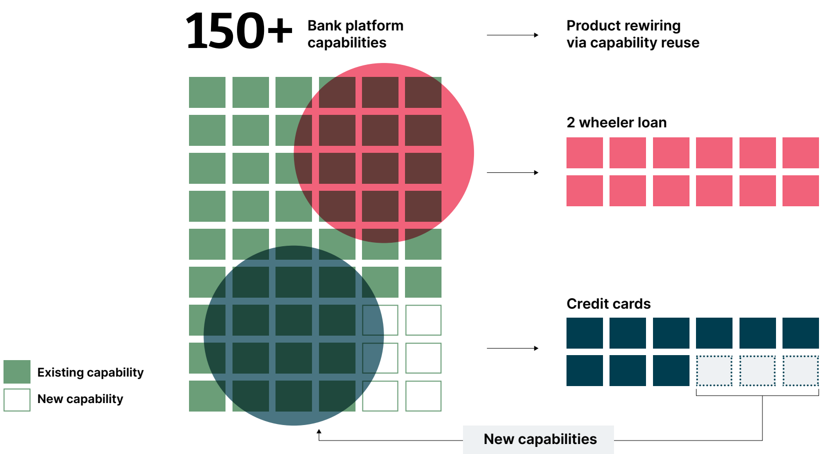
This would be supported by partnerships and aggregator frameworks. Lenders would expose their APIs to enable real-time risk assessment and subsequent disbursement of funds.

Though effortless from the customer's perspective and therefore valuable for the lender, becoming an embedded financial services partner requires a strong technological foundation. Let's see how you can build that.

The digital lending platform of the future

The traditional approach to building digital lending platforms was centered around products. A loan, insurance, credit card etc., were the building blocks of this approach. Soon, banks and lenders realized that this approach was limiting, especially in delivering adaptable, real-time customer experiences.

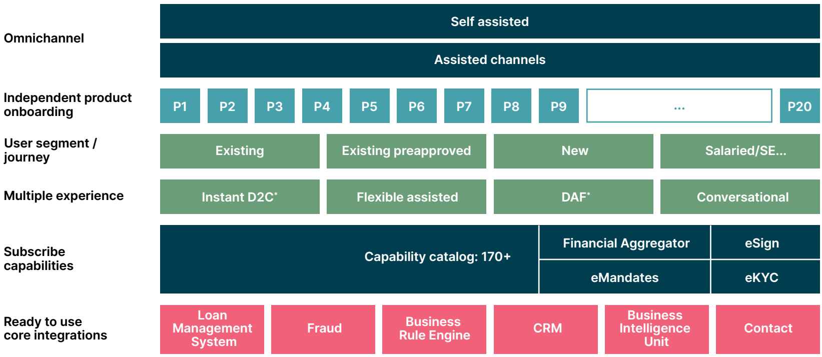
This gave way to the approach most popular today, i.e., building extensible digital capabilities rather than products. A new product or a product variant can be launched at a significantly faster pace by rewiring these extensible capabilities, as illustrated below.



Composable platform model

To enable this platform, lenders typically segment their user journeys based on a three-dimensional model at each product level — channel, product variant and customer segment.
For example, a personal loan onboarding on such a platform will have separate user journeys for existing and new customers, direct-to-consumer (D2C) and assisted channels.

This platform approach unifies the origination experience into one layer with multiple journey orchestrations leveraging a common catalog of capabilities. However, that can exponentially increase complexity, creating hundreds of user journeys across lending products and a heavy core.



** D2C = Direct-to-consumer | DAF = Digital Application Form*

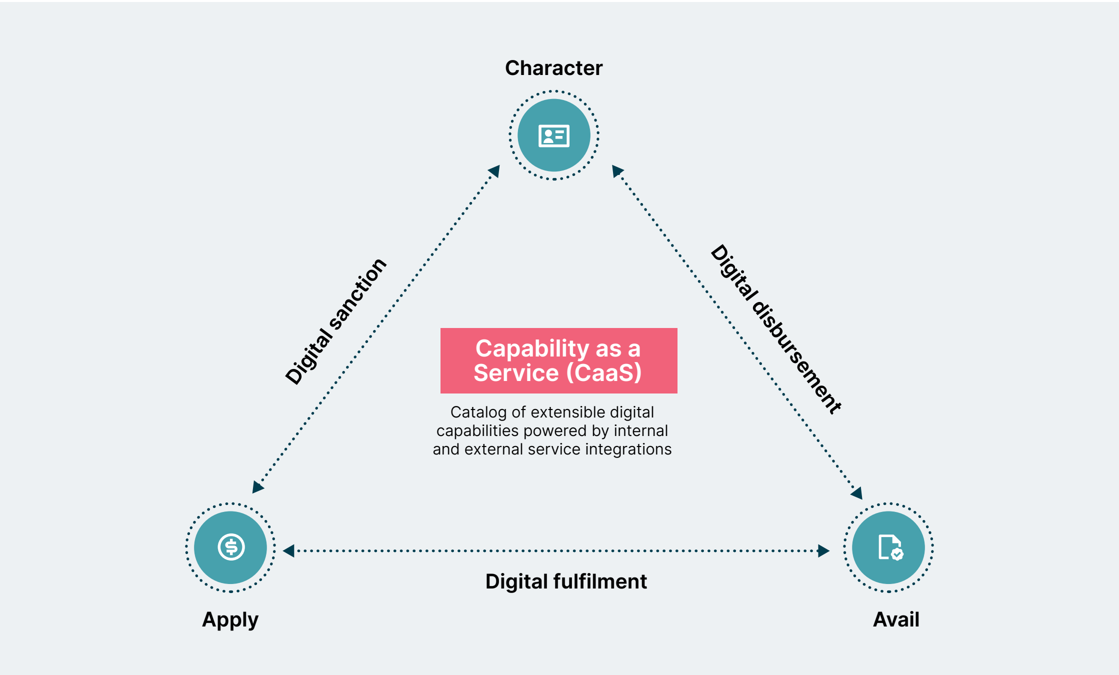
Digital lending platform with capabilities powering multiple product and user journeys

To address these challenges, lenders should shift from product-level journey designs to more centralized, flexible, horizontal modules that serve as a catalog of capabilities.

This architecture not only simplifies the user experience but also leverages common digital capabilities across different modules, ultimately reducing redundancy and accelerating deployment

Capabilities-as-a-service model for digital lending platforms

As an extension to the current platform approach, we propose the capabilities-as-a-service (CaaS) model. In this model, CaaS serves as the digital engine powering the platform with digital capabilities for fetching data, data validation and verification, executing specific tasks like mandate setup and more. The CaaS model is structured around three horizontal modules powered by a central catalog of capabilities.



CaaS model for digital lending platforms

Character as a Service

An independent engagement layer supporting multiple user experiences for sales and customers to generate demographic, employment and income profiles. Character will be an independent module agnostic of any product.

Capabilities within the Character module

- Initiation and authentication
- Customer employment profiling
- Customer alternate data
- Customer needs
- Customer demographic profiling
- Customer income profiling
- Digital KYC

Integrations from ecosystem players power this module. National identity systems, standardized credit information (of the kind provided by TransUnion, Equifax and Experian in the US and the UK), and land registries are examples of data sources that can contribute substantially to this process.

Similarly, there are also fintechs that can perform instant income calculations via bank statements, employment verification services, etc., creating a holistic profile of the customer without manual input from them.

Apply

Once the platform understands the customer profile, eligibility and needs via the Character module, Apply will run risk checks and generate personalized offers.

Unlike the standard platform approach, the Apply module will not have a separate journey for each product. Instead, it will curate a real-time journey considering the customer’s need and character to create a personalized catalog of offerings.

All the product logic, such as risk assessment and pricing, will lie with the Apply module, limiting the number of product variations to this level.

Capabilities in the Apply module			
Asset/collateral	Risk assessment	Offer and pricing	Insurance and cross-sell

Avail as a Service

Once a customer is happy with the offer, the platform will call an independent Avail module, an engagement layer, to acknowledge the offer, set up repayments and digital agreement.

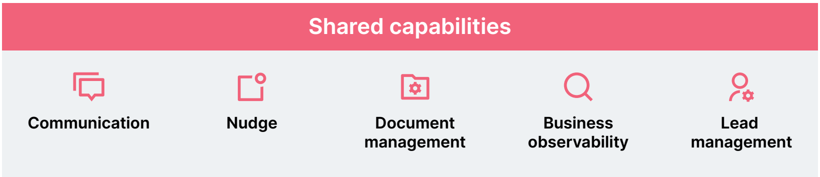
Capabilities in the Avail module				
Payments	Disbursement	Fulfilment	Account setup	Agreement

Similar to Apply, Avail will give an instant, paperless and unified experience in one go.

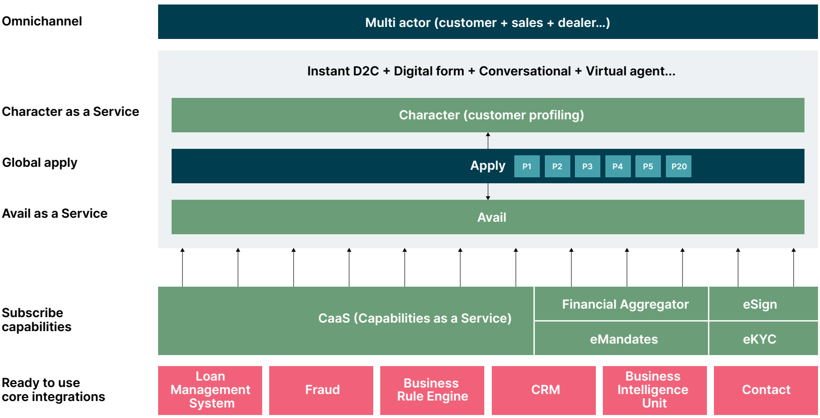
Here, too, ecosystem partners and services can strengthen the journey, embedding digital identity verification and signing capabilities, and seamless payments and transaction records to support end-to-end digital agreements. This accelerates the process, enables better lending decisions and engages the customer.

Shared capabilities

Supporting these three modules will be the shared capabilities that provide an end-to-end digital lending experience on the platform.



Capabilities as a Service in action

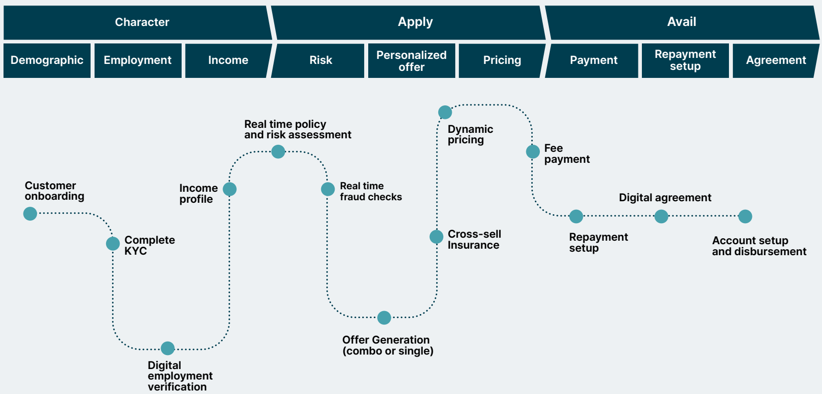


Digital lending platform of the future

Any lending or credit product origination journey can be designed with these three modules as a base powered by a central extensible catalog of digital capabilities. This modular customer-centric approach to designing platforms will enable lenders and banks to unify their acquisition experience across business verticals and not just lending.

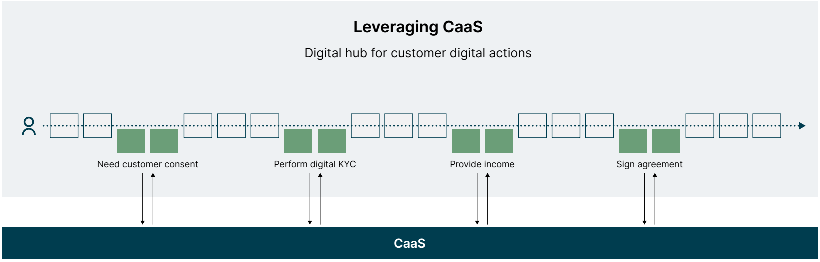
In our experience working with one of India's largest private banks, we partnered with the bank to build 150+ extensible capabilities, enabling them to launch 20+ products on the same platform at a much faster pace. This spans retail loans, credit cards, forex cards, merchant and rural lending. Later, we externalized these capabilities as a service to other platforms of the bank as well, resulting in bank wide standardization and easy maintenance.

A typical customer acquisition journey leveraging these modules will look like the illustration below.



Typical customer acquisition journey with the CaaS model

Tech owners can extend these capabilities beyond their platform to be used by any application of the financial institution. For example, a physical onboarding process in the bank's branch systems can leverage CaaS capabilities to speed up the process and make it efficient using digital capabilities.



CaaS embedded business processes

Paolo's home purchase experience with the future of digital lending

In the future of digital lending, Paolo will simply signal his interest in buying a home and the onboarding platform will:

- Generate his real-time profile and identify prospective properties via the Character module and ecosystem partnerships
- Create personalized offerings, such as a combination of a mortgage and home and life insurance, with the Apply module
- Fulfill Paolo's application for all products simultaneously using Avail
- Nudge Paolo in future if his financial activity could result in challenges servicing the mortgage or other financial obligations

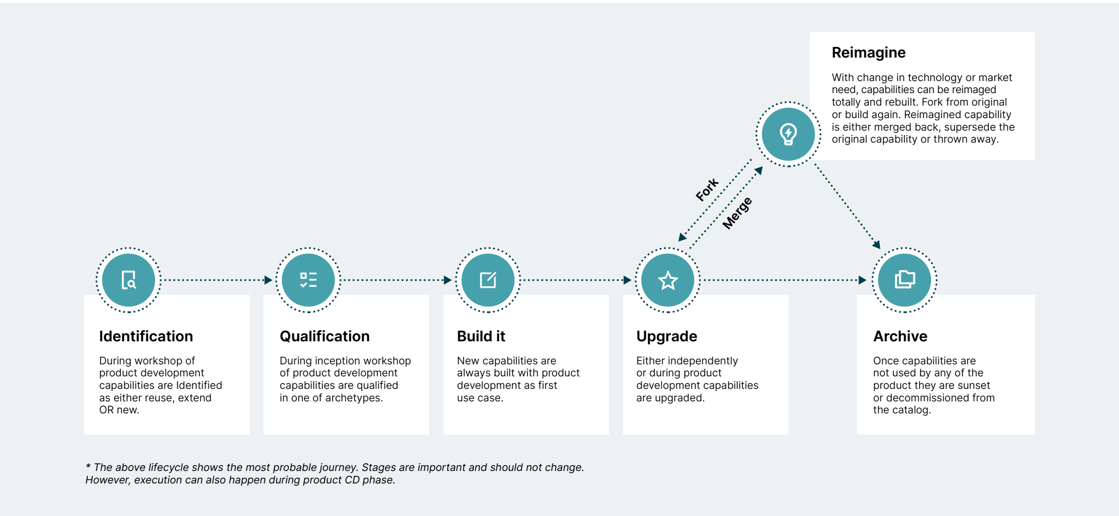
This way, the lender will become a financial partner to Paolo throughout his ownership of the home and even beyond, by for example proactively supporting his efforts to sell his first house and move to a new one. This approach enables lenders to become a part of the ecosystem early and in context – and to remain at the center of the customer journey.

Creating the organizational structure for reimagining digital lending platforms

When an organization goes from thinking in terms of product constructs to dynamic offerings that are automatically curated by the platform, things can feel a bit out of control. Adapting to this requires some tweaks to the organizational mindset and team structure as well.

Governance for CaaS

To retain the extensibility of core capabilities, tech teams need to set strong governance guardrails around their identification and maintenance. A typical lifecycle of a capability needs provision to customize or upgrade as per consumer's requirements.



A typical lifecycle of a CaaS model

Teams for building CaaS

The CaaS approach to digital lending platforms will generate maximum value if the teams are also aligned with the same mindset. Below is our recommended team structure for a digital lending platform focusing on business agility and standardization.

Product team

Business and engineering team together create, define and deliver, measurable business outcomes. Each product team can act as a satellite team stitching new capabilities to their products.

Capability dev teams

Core engineering team building capabilities that help deliver products with quick time to market. Engineering team includes design, data, infra, testing and dev skill sets.

Higher order infra team

Helps building reusable infrastructure as code, which allows application development pods infra and dev tools capabilities on demand.

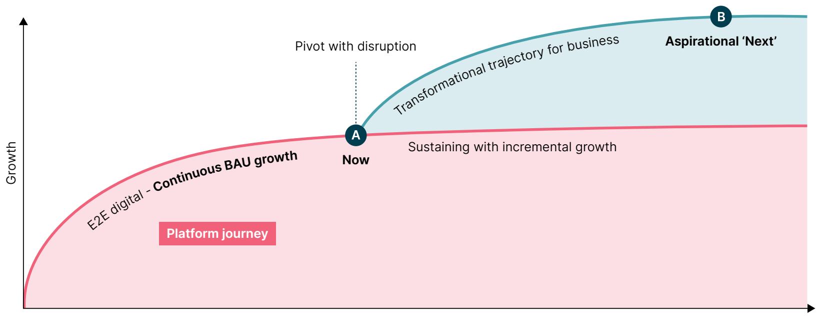
Governance teams

Team helps build products with consistency across bank businesses and helps leverage capabilities across bank. Also helps maintain standards.

Team structure for a CaaS model

Alternate business growth leveraging CaaS

The above CaaS approach and platform strategy will enable the platform to reach a stage of maturity to support the next curve of growth and introduce a culture of innovation. Therefore, not just achieving the faster time to market for core lending transformation (Point A in below diagram), but also enabling business to explore alternate growth opportunities with platform as a catalyst to achieve the "Aspirational Next" (Point B in below diagram).

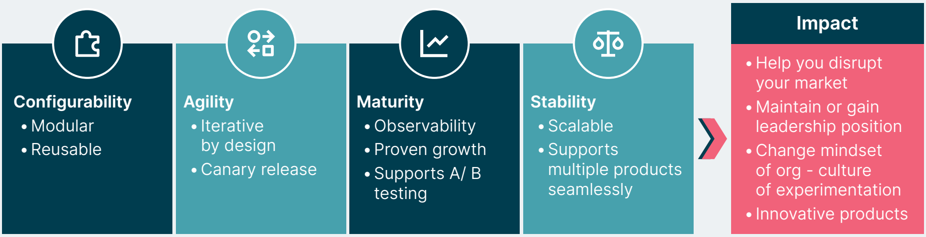


Fuelling the next growth curve

Hence, the proposed approach not only appeals to lenders looking to move from products to platforms but also to businesses already on platform and exploring next disruption and growth opportunities.

This disruption will be enabled by four platform vectors eventually helping business to gain the leadership position:

- Configurability
- Agility
- Maturity
- Stability



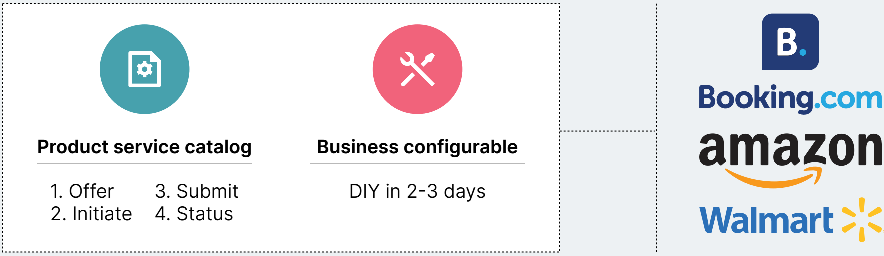
Platform as a catalyst of growth

The 'aspirational' initiatives that will further fuel growth leveraging CaaS

Omnipresence via Native Partnership framework

Being omnipresent means 'being where the customer is.' As highlighted in Chapter 1, lenders need to become an integral part of the overall ecosystem fulfilling customers' end-to-end financial needs. This requires business enablement to partner with multiple fintechs and aggregators quickly and effortlessly.

The CaaS platform approach achieves this by exposing an independent and configurable catalog of APIs, enabling DIY (do it yourself) onboarding of partners to the business.



Partner of choice/ DIY onboarding partner

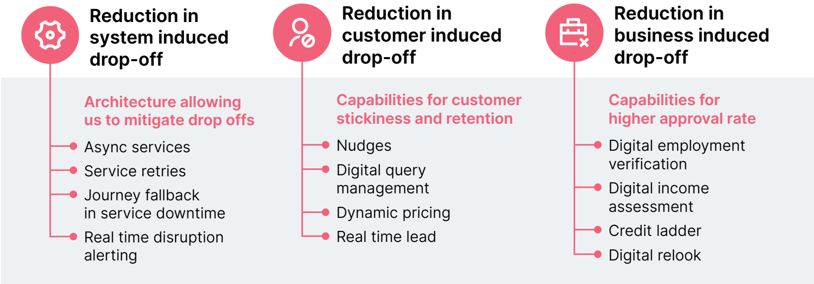
Business continuity via drop-off reduction

Traditional lending processes often suffer from customer drop-offs at various stages of the journey, resulting in lost business opportunities. Lenders generally lose potential business due to three reasons:

- **System induced drop-off (SI):** The most common reason, involving glitches due to core systems.
- **Customer induced drop-off (CI):** Customer abandons the application.
- **Bank induced drop-off (BI):** Digital policy or data quality violations.

Introducing a Zero Drop-Off Framework

The Zero Drop-Off Framework is centered on real-time predictive analytics and dynamic system monitoring (heartbeats) to detect potential drop-off points. When a disruption is detected, the engagement layer seamlessly switches to an alternate journey, thereby preventing technical errors or customer disengagement from halting the application process.



Customer retention and continuity

Handling system induced drop-off

Scenario: Paolo is in the process of applying for a mortgage. During his application, one of the critical risk-check services experiences a system failure.

Traditional outcome: Paolo receives a technical error message and is asked to resume the application later, risking the loss of business.

Zero drop-off approach:

- Step 1: The engagement layer detects the risk-check service failure in real time.
- Step 2: Instead of displaying an error, the system automatically bypasses the failed service.
- Step 3: Paolo's application continues without interruption, ensuring his submission.
- Step 4: The system continually attempts to reconnect with the risk-check service and, once operational, informs Paolo of the updated application status.

Handling customer induced drop-off

Scenario: Paolo encounters issues during the application or is dissatisfied with an offer, leading him to consider abandoning the process.

Zero drop-off approach:

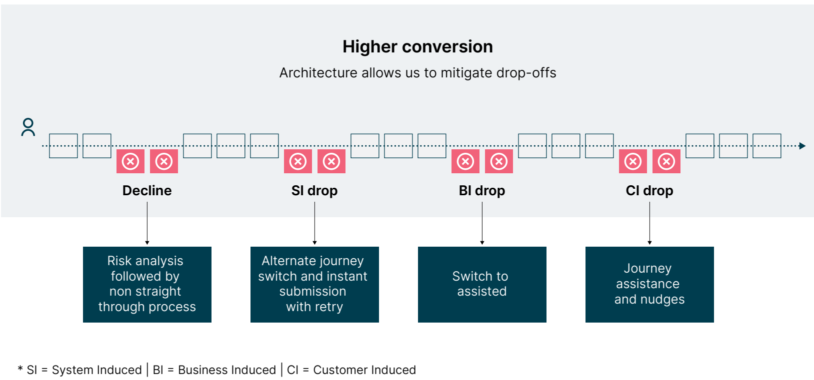
- Step 1: The platform detects signs of customer disengagement based on behavior and browsing patterns.
- Step 2: A real-time, GenAI-powered virtual assistant is activated.
- Step 3: The virtual assistant engages Paolo in a conversational manner, offering assistance, addressing concerns, and potentially negotiating an offer to retain his interest.
- Step 4: Paolo is guided back into the application process, ensuring continuity and reducing the likelihood of drop-off.

Handling business induced drop-off

Scenario: Paolo encounters a drop during the application due to a business rule violation or incorrect data.

Zero drop-off approach:

- Step 1: The platform triggers a ladder approach to solve the business violation. For example, if Paolo's KYC credentials have expired, the platform will automatically ask for eKYC. If Paolo is not able to do eKYC, the ladder will switch to other modes of digital identity, followed by physical KYC document uploads as the last option.
- Step 2: If Paolo is still stuck after the ladder options, the platform will switch the journey to assisted and assign a sales or virtual AI agent to assist.



Empowering business continuity and drop off management

Lending platform but better

Banks, financial institutions and lenders are already moving towards a modular and composable platform model for their lending. While this shift has created substantial value for financial institutions, it also opened them up to several challenges. With the evolution of digital lending, a new, flexible approach away from a rigid, product-centric mindset is essential.

The Capabilities as a Service (CaaS) model presented above offers a dynamic, customer-centric alternative. This approach to platform development enables lenders to become tech-driven financial partners to their customers.

By integrating omnichannel engagement, real-time customer profiling, instant risk assessment and modular capabilities as a service, the CaaS lending platform will seamlessly address diverse customer requirements throughout their financial journey. Ultimately, this shift paves the way for financial institutions to transform into trusted, embedded partners that drive enduring value well beyond the initial transaction.

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Swapnil is a principal consultant specializing in financial enterprises. He brings over 13 years of experience in digital banking, product management, business transformation and large-scale program delivery for global lenders, banks and other financial institutions. He takes a special interest in helping traditional lenders transform into digital lending powerhouses by optimizing people, processes and technology.

Swapnil's approach to solving complex business challenges focuses on bringing together customer insights, product thinking and technological innovation to deliver scalable, high-impact solutions, enabling organizations to achieve enterprise-fintech agility.

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For over 30 years, our culture of innovation and technological excellence has helped clients strengthen their enterprise systems, scale with agility and create seamless digital experiences.

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