CODEBASE TECHNOLOGIES

IBS intelligence
Global FinTech Perspectives

WHITEPAPER

Credit-as-a-Service: Connecting customers and lenders to drive value

Demystifying Digital Financial Services

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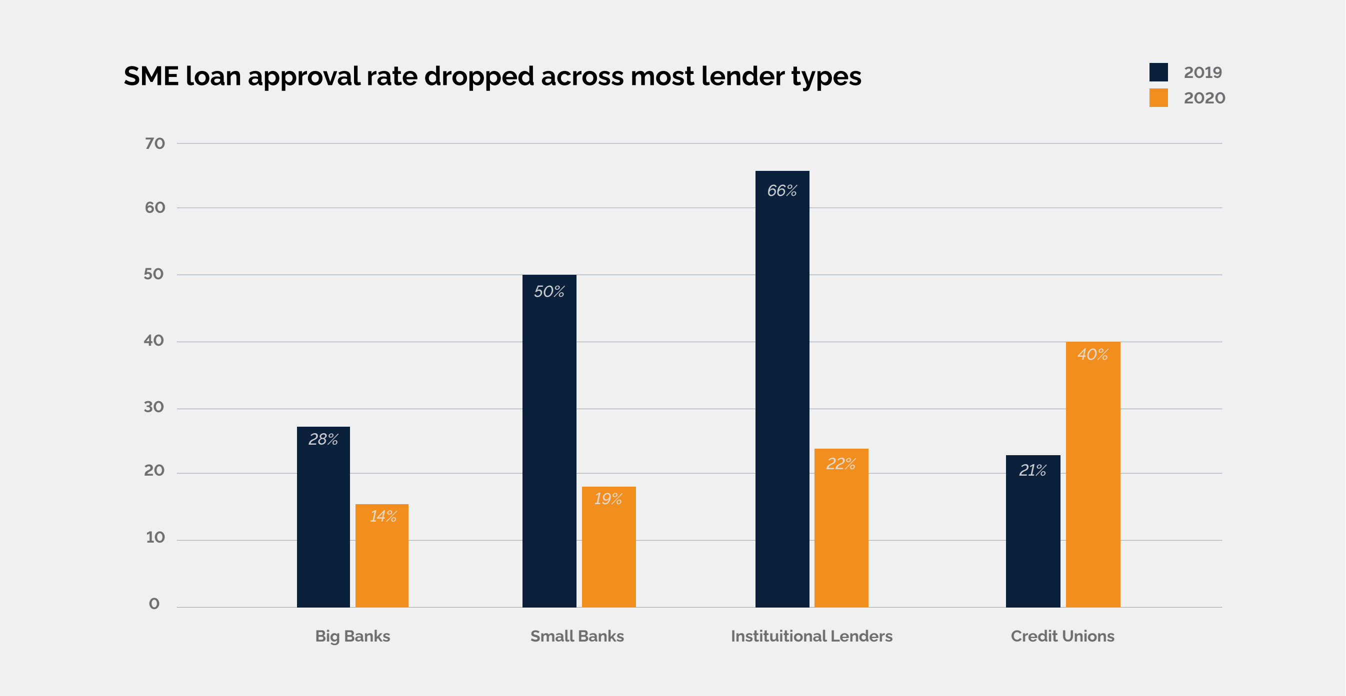
The Traditional Lending Model is Broken

For a very long time, incumbent banks/financial institutions have remained the pillars or stalwarts of the banking industry. Be it a retail consumer or a business, banks have remained a one-stop solution for all their financial needs. However, financial institutions have had their fair share of challenges in the past decade, which have ultimately trickled down towards the end consumer and revolutionized banking as we know it.

From an SME (small and medium-sized enterprise) point of view, it is no secret that following the financial crisis and now the pandemic, SME business owners have short on love for their banks. While lending restrictions have eased somewhat, SMEs have struggled getting loans approved for business.



Moreover, the current lending framework puts banks at the centre, leaving them as the only judge of who is creditworthy and who is not. Unfortunately, SMEs have less formalised governance processes and publicly available information. They generally operate in emerging sectors and don't have enough assets for collateral, which makes them a riskier proposition for the banks. Other barriers SMEs face include a cumbersome and costly client support infrastructure, lengthy and tedious application and assessment processes, demands for impeccable credit scores, and financial statements used as the primary means to show business performance.

These challenges have affected the cash flow of SMEs, ultimately restricting one in five small and medium-sized enterprises from embarking on new projects. 9 in 10 SME's state that the lack of adequate lending is preventing them from growth and expansion.

However, these are not the only challenges that SMEs are facing. Business customers have also been vocal about the lack of leading-edge products and digital solutions from their primary banking partners. Needless to say, the situation may be approaching a tipping point that could lead to significant defections of SME accounts from their primary banking providers. A case in point is that approximately 70% of small and medium customers prefer using cashflow management tools if offered by their primary financial institution . Also, approximately 45% SMEs demand digital invoices integrated with their accounting software.

The Rise of New-age Players is Redefining Lending

As the demand from business customers evolves, a new breed of lenders is redefining the lending system. The FinTech effect or "Lending 2.0" is changing the landscape on several levels. With the rise in nascent technologies such as automated decisioning, AI and machine learning, SME lending processes are witnessing dramatic changes.

While these digital lending companies began bursting onto the scene shortly after the 2008 financial crisis melted the global economy, they have found profound application - especially in North America and Europe – especially after COVID-19's economic destruction. For instance, in the US, the Small Business Administration (SBA) authorised FinTech lenders such as Lendio to fund critical Paycheck Protection Program (PPP) loans, providing vital financing to help small businesses across the country weather COVID-19's economic wrath.

There is no doubt that FinTechs are ushering in the dawn of a new era through AI and machine learning to redefine the lending business. And this can be further substantiated by the increase in investment in terms of venture capital deals. In 2021, there was a significant increase in funding for FinTech lenders, increasing to USD 20.5 Bn, up by 220% from 2020 with 633 deals.

Drilling down by regions, the USA garnered the largest portion of the funding pie in 2021 at 41% (North America stood at 44%), while Europe, Asia, and LatAm received 17% apiece, which was well reflected in the largest lending deals in H2 2021.

Name	Latest Amount Raised USD Mn	Investors	Country
Better.com	750	Aurora Acquisition, SoftBank Group	**United States**
Kavak	700	General Catalyst, Founders Fund, Tiger Global Management, SEA Ventures, Ribbit Capital	**Mexico**
Brex	300	Greenoaks Capital Management	**United States**
Mynt	300	Insight Partners, Warburg Pincus, Ayala Corporation, Bow Wave Capital, Amplo	**Philippines**
Zopa	300	SoftBank Group, Augmentum Fintech, IAG Capital Partners, Northzone Ventures, Chimera Investments	**United Kingdom**
Upgrade	280	Coatue Management, DST Global, Koch Disruptive Technologies, Ribbit Capital, Sands Capital	**United States**
WeLab	240	N/A	**Hong Kong**
Slice	220	Insight Partners, Tiger Global Management, Blume Ventures, Gunosy Capital, 8i Ventures	**India**
Clearco	215	SoftBank Group, Intuit, Bow Ventures, Park West Asset Management	**Canada**
Interfirst	175	StoicLane, MFA Financial, Oaktree Capital Management	**United States**

Largest Lending equity deals in H2'21

As lending FinTechs witness relentless growth in numbers and valuation, many will rush to capture the market share of the traditional lending market.

With SMEs representing over 90% of the business population, 60–70% of employment and 55% of GDP in developed economies, it is time for banks to jump on the bandwagon of instant digital lending and realise the potential of embedded services to protect their market share and convert the prevalent competition into co-opetition for the larger good, i.e. customer service and inclusion.

Decoding Embedded Lending and Credit-as-a-Service

Before jumping on to the solutions that banks must consider to thrive in the new lending ecosystem, it is important to understand the evolution of lending and how "Lending 2.0", i.e. digital lending, is redefining a new era – where partnerships and co-operation are playing a critical role.

The new concept here is marketplace lending or embedded lending. Embedded Lending is slowly but surely becoming an integral piece of the larger Fintech puzzle transforming the financial services industry. At its core, Embedded Lending is simply lending enabled through digital platforms that mine increasingly non-traditional data and streamline the loan acquisition, origination, decisioning and servicing processes. Today, asset classes such as small businesses, students, and unsecured consumers have moved towards digital platforms, while other asset classes still lag.

Changes within the last couple of years indicate that the concept of market lending or Embedded Lending is maturing. This this can be further substantiated with the involvement of an ever-increasing number of players within various categories:

Changes in market lending within the last couple of years

Digital Platforms	Lenders	Embedded Finance Infrastructure Providers
Non-financial companies whose Embedded Lending tools are integrated. Interact with the customer through their website or mobile application and offer credit services to targeted customers on their platforms.	Financial institutions provide credit products embedded on digital platforms. It is imperative to assess borrowers' credit risk to manage and process loan applications.	Develop software that enables the integration of embedded lending into digital platforms. They create APIs and SDKs that bridge merchant platforms with lenders. SDKs help bring functionalities promptly and efficiently into a merchant's mobile application.

Moreover, Embedded Lending has opened a new realm of possibilities for small businesses by digitising the process of disbursing credit and in a world of everything-as-a-service we have seen the emergence of Credit-as-a-service (CaaS). By definition, CaaS is the ability to integrate credit into different ecosystems, create new user experiences, and leverage the transaction data generated by customers' purchasing behaviour. Through CaaS technology, companies have the tools they need to personalize and re-invent the way they offer credit across the customer lifecycle.

The implementation of CaaS can help businesses increase conversion rates, reduce churn, explore new revenue streams, and more easily scale their cross-border lending operations.

Needless to say, Embedded Lending and CaaS are going hand in hand in creating a revolutionary system, where challenges such as longer turnaround time for loan approval, lack of accessibility, and costly disbursal of loans are eradicated.

At the same time, they are providing various benefits to all the players involved in the ecosystem.

Seller Platforms		End Consumers
Boosts business metrics By providing credit within the app itself, online platforms can reduce cart abandonment and increase their revenues. They can achieve higher average order value (AOV), customer lifetime value (CLTV) and customer retention.	1	**Solution to cash flow problems** By offering credit at the point of demand creation, Embedded Lending solves the problem of cash flow. It allows businesses to carry out operations uninterrupted by delays in supply, and lets them repay the loans as per a flexible schedule.
Wider consumer base For lenders, associating with online portals helps expand their customer base and make use of the distribution capabilities of the business in question. This also helps gain access to data surrounding consumer behaviour that can be used by the business.	2	**Access to better credit services** The end-customer can avail of a cheaper loan that can be secured without hassle and repaid in a flexible manner. The lending solutions offered under Embedded Credit are also tailored to meet individual requirements.
Increases revenue The merchant hosting the Embedded Lending plug-in can earn commissions from each loan that is disbursed through their platform. Such as usage-based revenue model can help platforms grow their per user revenue by 5x.	3	**Expanding cross-border lending** By enabling a digital wallet with a debit card, companies can offer a credit function within the context of an e-wallet. This can then be legitimately passported across borders, without the need for costly additional licenses.

Benefits of Embedded Lending and Credit-as-a-service

Case-1

Utilizing platform data for more informed loan approvals: MSMEs and SMEs can avail of business loans from various accounting apps such as Xero and Quickbooks. These apps use their platform data to approve of such loans. This makes businesses more reliable to customers, also giving a boost to customer retention and acquisition.

Case-2

Aggregators providing loans to service partners: Transportation or ride-sharing companies such as Uber provide loans to drivers based on their ratings and performance histories. Other aggregator companies such as Zomato or Swiggy can offer working capital loans or vehicle loans to their partners.

With various use cases growing and the aforementioned benefits for ecosystem players, traditional banks/incumbents will need to realise the impact Embedded Lending and, more importantly, Credit-as-a-Service can have in the future lending landscape. Keeping this in mind, banks will need to figure out a strategic move to enter this particularly budding landscape and become a one-stop solution for small and medium-sized customers.

Enabling the RIGHT Credit-as-a-Service Model

As firms increasingly seek ways to bring ease and simplicity of digitalized lending to new verticals and explore new use cases, Credit-as-a-service (CaaS) is set to be one of the main drivers.

However, any new service model comes with its unique set of challenges that organizations need to be mindful of. There are several challenges associated with digitalized lending, such as fraudulent activities, exploitation of data, and more. A case in point is mobile apps demanding advance payments and fake promises of "approvals" with no documentation. Another instance includes companies offering swift, hassle-free loans for short durations but hefty levy charges and high-interest rates.

To mitigate these possible fraudulent activities and overcome various other challenges, IBSi has proposed a DICE framework which includes **DEVELOPING Infrastructure, IDENTIFYING Key partners, CURATING Ideal Services, and ENHANCING Customer experience.**

D DEVELOP	I IDENTIFY	C CURATE	E ENHANCE
Look for a risk managed tech stack, ideally from a trust technology partner. Tech should be agile, secure, cloud-native and microservices enabled.	Identify a key technology partner with relevant solutions that can help on your digitization journey.	Ideal and personalized services to provide a segment-of-one	Gather usage and trends data and use it to refine and optimize your offering and customer experiences.

Step 1: Developing Infrastructure

The starting point of the transformation journey is to concentrate on areas where risk components reside. Using technologies such as Artificial Intelligence, Predictive Analytics and Machine Learning, banks can slice and dice the data pool to assess credit risk and enable the customer-facing employees to make decisions faster. The aim should be to review and transform the critical areas where technology can carry the load – such as real-time checks: ID verification, Know Your Client (KYC), Anti-money laundering (AML), credit history and affordability. This way, banks can eliminate human bias with an accurate assessment of the creditworthiness of the end customers and merchants.

Next, after the back-office implementation, is a fast-track plan to migrate mid- and back-offices onto the cloud. While banks in Europe have been using the public cloud for non-critical functions, they need to access their current capabilities and accordingly shift their critical processes into the cloud to make effective risk decisions. For instance, today, data has become the new oil, and at a time when leaders are being asked to process vast data in less amount of time—often amid budget and staff constraints—cloud computing can enable risk teams to react to changes within the external environment and deep-dive into the analytics life cycle to understand better the drivers of risk, all without major expenditures.

Starling Bank partnered with Funding Options to deliver access to finance for SMEs in the U.K. Starling Bank is the newest member of the Funding Options lending panel, which has more than 120 members. Through its Banking as a Platform service, Starling Bank takes care of all the regulatory aspects, scheme compliance, Anti-money laundering (AML) and Know Your Customer (KYC).

Additionally, cloud migration also unlocks various other associated benefits

Scalability

Public cloud allows banks to pay only for what they use, whenever they need it

Security

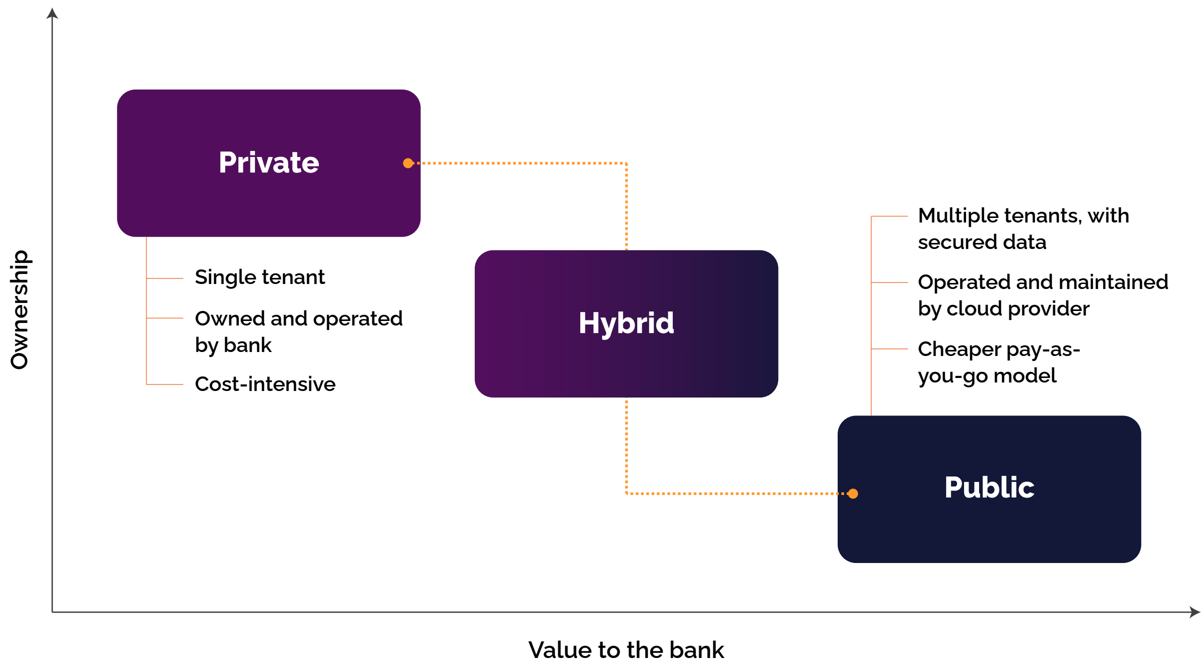
Cloud adoption contributes to better data analytics, robust KYC and anti-money laundering practices, enabling banks to detect fraudulent activities better

Speed

Allows banks and lenders accelerated time to market over building technology from scratch.

Cost Savings

Banks can shift their fixed cost into a variable cost, allowing economies of scale and benefitting from upfront cost savings.



The growing use of public cloud model

31%

of global executive claim that cloud enables faster time to market, and over 60% of executives say that cloud allows them to reduce cost while allowing them to scale

Once the services are cloud-powered, it is time to scale API networks to accelerate the transformation journey and facilitate open banking. APIs and API management can help banks reduce risk and respond when external volatility arises. Banks can examine the challenges faced by companies that have already entered ecosystems and mitigate the risks involved in getting their internal leaders, technologies, and legal processes prepared for smooth ecosystem entry. By leveraging pre-existing data routes, financial institutions can capitalise on innovation while optimising implementation and cost to deliver modern customer experiences. **Codebase Technologies Digibanc** platform offers expanded Open Banking and API integration functionality that helps banks with legacy IT infrastructures access today's fintech ecosystem and greatly expand their capabilities for innovation in lending and digital banking.

API's strategic value appreciated in early 2000 when platform firms Amazon, eBay and Salesforce launched commercial APIs. Today APIs act as a growth engine in two ways:

• *A catalyst to digital transformation:* APIs are the central nervous system that synchronises operations by eliminating silos. Banks can leverage APIs to **modernize applications and rearchitect monolithic legacy systems** into microservices with greater business agility.

• *Opening new business frontiers:* The API enables banks to commoditize banking services and products while developing **new monetization models** to diversify the sources of value. This way, banks can become a one-stop-shop for all their customers or **venture into embedded finance.**

Step 2: Identifying key partners

The second checkpoint of the transformation journey is to collaborate at scale. It is highly impractical, slower, riskier, and costlier for the banks to develop everything in-house. At the same time, ecosystem banking thrives on creating and cultivating a network effect, thus attracting suppliers and customers. Within an ecosystem, banks can leverage various collaborative synergies and turn competition into co-opetition:

- Reduced customer acquisition cost
- Decrease churn rate
- Boost innovation by reducing time to market
- Access new and enriched contextual data

Synergies that could be gained by tapping into a partner ecosystem

Additionally, to mitigate risk, banks have a great avenue to interact with 3rd-parties with expertise in data analytics, risk score/index modelling and decision automation. They include enabling quick approval/decline decisioning during merchant onboarding and timely responses to changing risk conditions uncovered during ongoing merchant monitoring.

At the same time, banks can enhance their offerings and serve a dual purpose of security and customized offerings by creating an ecosystem of partners with different services. Traditional players can incorporate the concept of platformification using APIs to onboard various services required in a merchant lifecycle and be a one-stop-shop solution for their small and medium business customers.

Ultimately, embedded lending will create potent partnership opportunities, marrying innovative financial service companies with household names. Done right, it will build on an existing brand's reputation and customer loyalty and give the feeling of an integrated service without needing to start from scratch.

jaris, a US based private label Credit-as-a-Service (CaaS) platform is making it simple for payment-enabled software companies to offer branded financial services to small businesses to drive acquisition and to help increase engagement, retention, and brand loyalty. Fully managed by jaris and accessed via an innovative API, partners at jaris can quickly deliver competitive and fast financial services to their merchants. jaris is a full-stack solution company that includes underwriting, servicing, and financing. The significant financing capacity through banks and whole-loan purchasers makes it the trusted solution for embedded lending.

Step 3: Curating ideal and personalized services

It comes as no surprise that customer expectations have evolved. Customers, be it B2C or B2B, are searching for curated and personalized services that cater to their specific needs. In that context, it is essential for banks to realise that the above-mentioned steps one and two are just the building blocks or enablers, which would eventually position them to provide these required personalized services.

Banks during the pandemic tried using a customer-fit approach to provide loans to their existing SME customers. However, the skewness of these approaches led to major backlashes. A case in point is Bank of America considering only customers who have transaction accounts with the bank or Wells Fargo focusing only on non-profits and businesses with fewer than 50 employees.

Currently, the bank-SME relationship is mostly limited to lender-borrower engagements. There is an untapped opportunity to analyse transaction details to provide customized offerings for SMEs and deliver value-added services in collaboration with FinTechs.

Transformation of internal processes through a robust self-service options and automation approach for PPP and MSLP applications, along with digitalizing KYC, AML and on-boarding processes for SMEs using alternative data sources– like social media, video engagements, etc. help banks explore opportunities for customized financing.

Moreover, App-based support and an API-based ecosystem of technology providers can drive banks to strengthen engagement with SMEs and grow revenue in the process through e-invoice and bill payments, e-signature, and virtual assistance to assist cash flow positions suggest corrective measures. Using the partnership avenue, incumbents can also explore opportunities beyond basic services such as tax and accounting and offer additional services like CRM, website, and supply chain management – all relevant capabilities for quick and sustainable business revival.

India-based Lending-as-a-Service platform, Rupifi partnered with India's third-largest private sector bank, Axis Bank, to launch a Visa powered virtual credit card for small and medium enterprises. *The partnership provides Axis Bank the opportunity to tap the unexplored and productive MSME segment, that has a addressable market of over USD 100 Bn. Moreover, it also gives a platform to the bank to penetrate deeper into retail and commerce, food, tech, travel and various other businesses.*

Using this virtual card will provide plethora of benefits to the businesses such as redemption of cash-backs, streamlining of day to day processes, managing expenses through one medium.

Step 4: Enhancing customer experience

The last step of the framework is to engage with the customers and become their primary point of contact. As a step towards building an ecosystem based on the bedrock of trust, banks and lenders should integrate tech-driven data analytics functions as an efficient mechanism and provide a superior user experience.

In fact, adopting the above-mentioned practices and taking cues from successful implementation within the industry will enable banks to implement the concept of Segment-of-one. Segment-of-one is described as an effort that allows the organization to come together to solve the need of one customer while recognising every consumer as unique. These techniques will further strengthen the customer experience offerings of the banks.

Outlook and Way Forward

Looking forward, there is no doubt that the age of co-opetition with the financial industry will catch on primarily for two reasons:

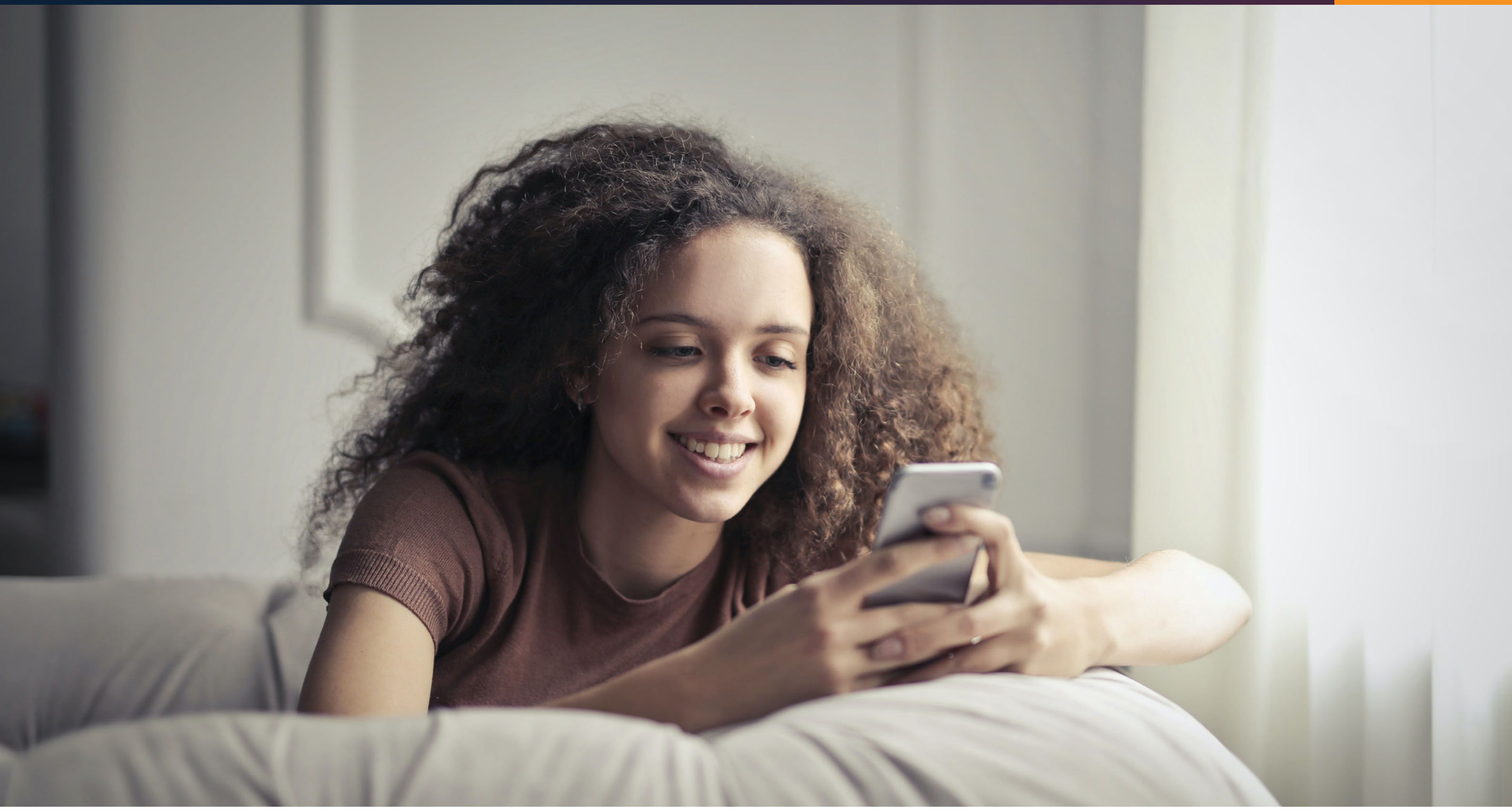
- Embedded finance is leading the way and bifurcating into embedded lending, payments, etc., with the ultimate endeavour to provide all the services under one umbrella.
- The entry of Tech giants (GAFA - Google, Apple, Facebook and Amazon) venturing into this space and providing relief. A case in point is Amazon and Facebook coming up with a Small Business Relief Fund and Grants Program to assist businesses during the initial stages of the pandemic and planning to scale in the future

While banks look towards new concepts such as embedded finance and platformification, it is of utmost importance to realise the potential threat they face from the well-established tech giants.

To negate this threat and maintain market position, traditional players will need to keep the following in mind while moving forward:

- Use the partnership or the M&A route - with upcoming FinTechs who are looking to grow their customer base and margins - to develop internal and external capabilities
- Follow the BNPL route and bring it to the SME table, enabling customers with more options and authority to utilise their capital
- Adapting to new technologies such as DeFi (Decentralised Finance), where businesses can directly take a loan through P2P lending using crypto assets.

Finally, as banks transform themselves, the DICE framework will enable banks, providing a base to them to evolve from a lender-borrower role to a segment-of-one role.



Codebase Technologies Digital Lending Solutions

Digibanc™ SmartRules includes multiple ready-made components and is a solution that empowers banks and financial institutions to offer seamless application processing and instant credit decisioning on an engaging digital customer journey.

As a customer's expectations evolve with the technological landscape, banks and financial institutions must ensure their channels are efficient, intuitive, and can deliver on all their needs. Institutions' existing manual and cumbersome processes do not support the experience that modern customers demand.

With Digibanc™, financial institutions can deliver a mobile-first, digital lending proposition that radically transforms the customer experience. The solution helps institutions digitize the entire credit origination and acquisition journey, delivering instant, rules-based credit decisioning and intuitive credit workflows.
The solution is an ensemble of credit management and intelligent proprietary digital lending algorithms that connects seamlessly with global credit bureaus, legacy core and credit management systems, allowing institutions to underwrite risk-governed credit in less than 7 minutes.

Digibanc™ includes a robust and agile Buy Now Pay Later (BNPL) component which allows banks, lenders and retailers to create their off BNPL offering using Codebase Technologies white labelled platform.

Why Digibanc™ Digital Lending?

Intelligent, scalable system architecture	Deployable across customer touchpoints	Consolidated platform	Data enrichment
Adaptable process changes and low cost maintenance built on flexible architecture	Omnichannel deployment with consistent user experience	Allows precise product additions and management with unprecedented efficiency	Enhanced operational and commercial insight with deep-learning algorithms

Industry Use Cases

Personal Finance | Credit Card | Auto | Mortgages | SME Finance

The Digibanc™ platform creates business empowerment

Reduce costs	Acquire and engage more customers with easy financing that's available anytime, anywhere, while actively reducing your customer acquisition costs.
Increase efficiency	Deploy SmartRules to cater to new segments efficiently on a platform that enables frictionless go-to-market and uncapped scalability.
Rapidly scale-up	Intelligent, automated rules management and decision-making algorithm that processes applications 95% faster than manual, paper-based processes.

Key Features & Functions

- Legacy Support
- Credit Rules Definition
- Campaign Management
- Credit Bureau Integration
- Workflow Notifications
- Credit Scoring Matrix
- Shariah Compliance Support
- Instant Disbursements

Digibanc™ is an award-winning platform that can help you disrupt your entire instant digital lending business. Our platform is available in a cost-effective SaaS model and contains dedicated components for:

- Conventional and Islamic Omnichannel Banking
- Digital Onboarding
- API Integration
- Micro Finance
- Mobile Wallets

About Codebase Technologies

Codebase Technologies is one of the world's fastest-growing open API banking solutions providers. With a vision to "utilize technology for a greater purpose," we engineer impactful digital financial experiences for conventional and Islamic banks, Fintechs, neobanks, lenders, and start-ups.

Codebase Technologies has launched several digital, challenger, and neobanks and financial propositions worldwide with a proven success rate and unparalleled speed to market. As a result, Codebase Technologies has grown exponentially as a digital banking technology pioneer in the global banking industry.

Our award-winning Digibanc™ fintech platform is a cloud-enabled, API-driven, and highly adaptable digital banking platform allowing institutions to deliver inclusive digital financial services. Our open architecture embraces a diverse ecosystem of partners and vendors, driving collaborative experiences across the financial services landscape. The Digibanc™ platform is built on a modular micro-services architecture providing a robust and agile environment to launch new financial products at scale.

With a deep culture of innovation and excellence, Codebase Technologies is helping bring forward the next generation of digital transformation and banking worldwide.

About IBS Intelligence

Established in 1991, UK-headquartered IBS Intelligence (IBSi) is the world's only pure-play Financial Technology (traditional and new-age) research, advisory, and media firm, with a global coverage, and a 360° portfolio of intelligence offerings.

For over 30 years, IBSi's expert teams have delivered independent, in-depth, actionable insights, with a laser focus on everything Financial Technology, to the global banking, consulting, technology, and institutional investor world.

As an Analyst firm, we take pride in covering 400+ FinTech vendors in-depth globally – the largest by any global research firm in this space. IBSi's iconic annual Sales League Table has been the industry-acknowledged barometer of global Financial Technology vendor performance for 20+ years, covering 100+ leading technology participants from 150+ countries, across 20 system types. Every year.

Our FinTech Lab in Dubai brings banks and global technology vendors together with a common goal of fostering collaboration and innovation within the GCC region.

IBSi's group company, Cedar, is a 35-year-old global management consulting firm with deep expertise in formulating & executing business strategy for financial services clients worldwide, with a significant focus on leading their technology and digital transformation.

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