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Lending in the Era of Digitalization

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ABSTRACT
This paper analyses the impact of digitalization on a Loan process, starting from Lead generation to the disbursal of loan. Paper also includes the benefit of adopting digital lending by any organization and how it eases the loan origination and management process for a customer. The paper also focuses on the framework, technologies used and growth of digital lending.
Keywords – Digitalization, Lending, Loan, Technology

I. INTRODUCTION

Lending is an act of giving property or money to another person called the Borrower for some agreement or pre-decided conditions. This is a universal concept of lending which has got structured in the last few decades. The lending process starts with getting a borrower on-board then gathering necessary details and information about the borrower, based on the details provided, validation is taken place with the help of various documents, credit assessment, and deciding the appropriate loan amount that should be approved to the borrower on the precise interest rates. Once the loan disbursement is completed, it is followed by a Loan management system. It handles the post disbursement formalities.
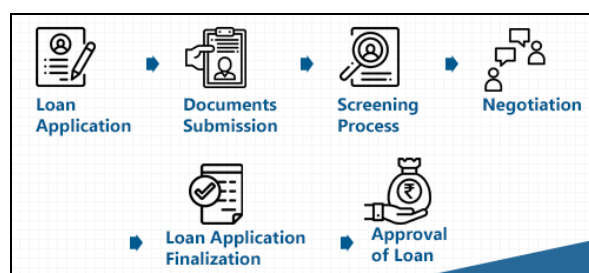

Fig. 1 Basic Loan Origination System (LOS)

When you get this whole process on various digital platforms through a paperless process and with the help of electronic means it will be called Digital Lending. Digital lending is a new and emerging area in the field of lending or credit. Digital lending benefit due to the use of new technologies, new credit scoring algorithms, and an integrated approach. FinTech have been the greatest harbingers in the growth of digital lending.

The key trends that have led to an increase in this phenomenon are as follows: Digital savviness of consumers, technological advances and emerging technologies like big data, Innovative business models by financial giants and regulations by authorities.
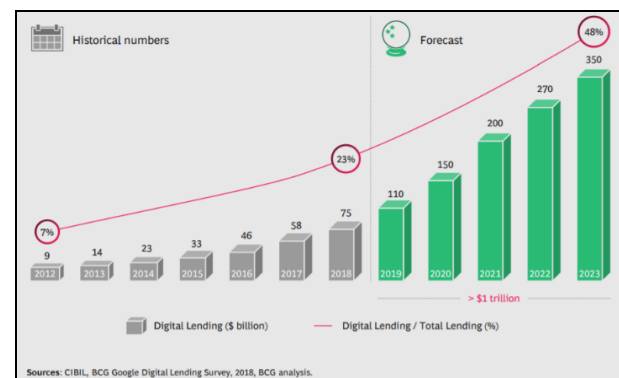

Fig. 2 Growth in Digital Lending [3]

As estimated by BCG Group [3], the digital lending business is expected to grow by $1 trillion over the next 5 years. this forecast is estimated based on the following drivers:

1) Increasing retail loans: Retail lending growth witnessed a CAGR of 16% over the last 5 years and annual growth of nearly 30%. These trends are expected to grow at 2.2 times taking overall retail loan disbursement from $330 billion to $730 billion by 2023.

2) Increasing internet access: As per the research by Boston Consulting Group, the digital scope of financial service consumers would increase from 50 to 75% by 2023.

3) Increasing overall digital exposure: There has been exponential growth in various segments, but financial segments have been early movers in the digital sphere having a whopping 55% consumer footprint. By 2023, digital influence on retail lending could further increase to 70-75%

4) Increase in digital purchasing: A research suggests that 64% of the population would like to use digital channels to purchase loans by 2023, as compared to the current figure of 23%.

II. OBJECTIVES

1. Cost Reduction: Digitalization results in lowering the cost of the overall process, by reducing the manpower and assets of any financial institution. It also reduces manual transactions between the lender and the borrower

2. Turnaround Time (Tat) Reduction: The digitalization of the process reduces the overall time and allows the lender to handle different customers at the same time. In case of a small ticket disbursal, it may also lead to the loan sanctioning at the end of the process.

3. Paperwork Reduction: Operations like collection of borrower's information, verification of information, risk calculation is done digitally which reduces the paperwork.

4. Provide Visibility: Customers can be updated about the application status and the actions taken by the lender after every step this improves visibility and provides customer satisfaction.

5. User Movement Tracking: The digital process allows the Lender to keep a track of the borrower after every step of the application.

6. Lower Risk Factor: The digital process involving third party integrations and smart credit decisions reduces the risk factor

III. LITERATURE REVIEW

1. Gerald Chappell et.al[1] suggested that challenges in lending digitally transformations are intimidating and the road to success can be wavy. Experience shows that the efforts extended are fully repaid in competitiveness and profitability. With customers receiving money up to 80% faster; lower costs, with 30% - 50% less time spent on decision making; and better risk decisions, which translate into greater profits in the long run.

2. Ninad M. Gawande et.al [2] observed that the revolution in digital banking has just begun. We are currently in phase one, where most banks offer customers high quality websites and mobile applications to their customers. The author said that such an approach should be followed where digital becomes not just another added feature but an integrated experience from the first touch point to the last one. Customers should be able to use their smartphones/tablets to do things like opening an account, making payments, resolving payment due disputes, etc. without taking the trouble to visit a bank branch.

3. Alpesh Shah et.al [3] found out that digital lending will grow 5 times, that exceeds $ 1 trillion over the next 5 years owing to greater access to the internet, increase in digital influence and purchase and also suggested that technology advancements will allow the full-scale digitization of operations and data & automation linked with data explosion will revolutionize underwriting. The authors concluded that reimagining consumer journeys and simplifying onboarding will help in realizing this opportunity. For the lenders who are successful in riding this opportunity wave, for them it will result in a return on assets (ROA) accreditation of 0.4-0.5 percent, directly adding it to their bottom line.

4. Amy Stewart et.al [4] said that financial service providers can take good advantage of the improved connectivity, available customer data and upcoming technologies in order to offer their products at a reasonable cost. The authors also concluded that these products offer customers a much more convenient, personalized as well as a faster experience and helps build user engagement.

5. Neha Punater et.al [5] in this report mainly focused on the fintech landscape, analyzing different stakeholders, and identifying various key growth drivers. The authors talked about the pillars of the Fintech ecosystem and concluded about how technology is playing its role in changing and digitalizing the banking processes and how it has digitalized the loan origination thus cutting down the loan disbursal time up to a huge extent.

6. Siddhant [6] observed that the solutions provided by fintech are very diverse in nature. They are secure as well as are cost effective. They potentially have the capability of addressing issues related to the banking industry – such as, increase in the outreach of fintech services, improvement of user experience, curb of bad debts, money laundering and frauds without having to replace physical banks. The author concluded by saying that financial industry in India has a great potential to succeed by taking advantage of its demography its youth population – most of who are adopting newer technologies increasingly by the day.

7. Mahesh Makhija et.al [7] observed that in order to compete with new players in the market and the increasing expectations of the customer based on market reforms, banks and NBFCs are re-strategizing their processes through automation at each step of the value chain of lending. The authors concluded that India provides an interesting opportunity for FinTech players. The robust ecosystem of technology, underlying platforms and skilled people (programmers, data scientists, researchers etc. especially those with global experience or returning to India) and government/ regulatory initiatives have provided FinTech players with the opportunity to identify specific niches and the capability to address their pain points, before growing to address other market segments.

8. Vaibhav and Puneet [8], through their findings, suggested that the opportunity for financial technology lies in the expansion of the market, consumer behavior shaping, as well as long term change reflections in the banking industry. Fintech startups are likely to improve quality of services offered, reduce costs involved and to also develop unique solutions of risk. They also said that financial technology will create a secured, diverse, as well as a more stable landscape in near future.

IV. DISCUSSION POINTS
4.1 Loan Process using BPMN

Business Process Model and Notation (BPMN) is a tool for business process modeling that is used to provide a graphical notation of the process in the Business Process Diagram (BPD). BPMN is designed to provide general information that is easily understandable to all business stakeholders, usually including business analysts, technology developers and business executives. BPMN can,

therefore, be used to support the common goal of all stakeholders in a project that uses a common language to describe processes, helping to avoid possible gaps between process design and doing business. Various categories of elements that allow the creation of BRD using BPMN Flow are Events, Gateways, Tasks, Activities and Connections. In the current scenario, BPMN is used to create the process of a Loan Journey. The methodology used for Loan processes can be incorporated using BPMN. The purpose is to reduce the implementation time, reduce the cost and improve the quality.
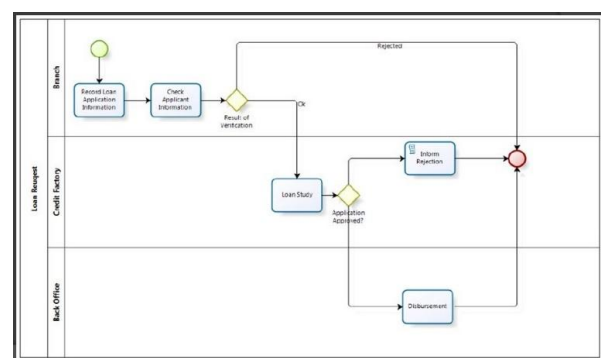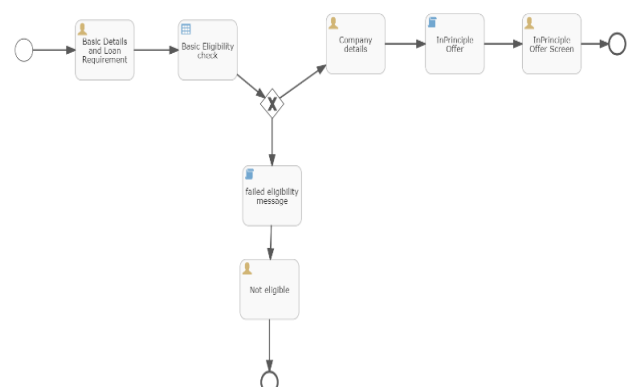

Fig. 3 BPMN Flow: Loan Request Journey

Fig. 4 BPMN Flow: Basic Eligibility check of Business Loan

Once a BPMN process is modeled, integrated to the external systems, and linked to the workflow tasks a single click validates the process, generates the output, checks for all the dependencies, and deploys all artifacts. This entire process is performed digitally and hence includes certain extra costs like Processing, Maintenance Charges, etc. However, it will reduce the operational charges since the human intervention will be much less compared to the traditional process.

4.2 Decision Making using DMN

Decision Model and Notation (DMN) is an approach for describing and modeling repeatable decisions within a loan journey to ensure those

decision models are interchangeable across the journey. It also improves the accuracy of the decisions. The decision logic is entered in a Decision Table which is depicted in DMN. It consists of inputs, outputs, and rules. A DMN is designed to work with BPMN, where the output of the decisions can be used in the BPMN.

Conditions				Rules		
	1	2	3	4	5	6
C1. Address proof provided	N		Y	Y	Y	Y
C2. Identity proof provided		N	Y	Y	Y	Y
C3. Loan amount < monthly salary			Y			
C4. Loan amount >= monthly salary					Y	Y
C5. Loan purpose				Home purchase	Pay tax	Other
Actions	1	2	3	4	5	6
A1. Approve loan request immediately			X		X	
A2. Review loan request manually				X		X
A3. Reject loan request	X	X				

Fig. 5 Decision table with inputs, outputs, and rules.

4.3 API Integrations

Application Programming Interface (API) allows a 3rd party application to use a specific interface where it will be enabled to access a common set of services or tools. At a bank, this means that the bank can provide third party access to its custom services through dedicated APIs. Many third parties can use these banking services or offer the same to their customers. A FinTech platform that offers loans can use an API to check the CIBIL score of the borrower or validate their PAN details in order to reduce human intervention which enhances efficiency and lowers the risk. It is also estimated that there has been a 15-20% profit for any financial institution when they implement it in their digital loan journey. Some APIs used by FIs are eKYC, PAN verification API, CIBIL, Perfios etc.
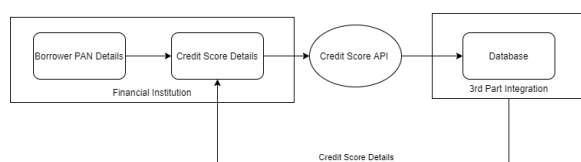

Fig. 6 Credit Score obtained Using API

API technology can be used to achieve a certain level of automation like obtaining Name, Address, etc. from Aadhar Number or in case of Business loans, obtaining the company's information from GSTIN number. In Fig-4.4, Bank/NBFC asked the borrower for PAN details, using which Credit Score is obtained.

4.4 Back Office Work

Current back-office operations are manually intensive. An average loan application goes through 20-30 manual handoffs before completion. Many Financial institutions lack automated processes that can reduce the risks of human error and reduce paper consumption costs.

Such inefficiencies at the back-office work result in customer dissatisfaction. This can be made efficient by providing the back-office roles with Online portals, where they can have access to the borrower's information and documents. Different roles can have access to different information based upon the requirements. These online portals will also have an option to pass on application to a different role. Suppose the credit analyst moves the application to the Collateral evaluator to verify the collateral details, after verifying the details collateral evaluator approves the application and it comes back to the Credit analyst.

4.5 Credit Assessment

Credit Assessment is important and usually a time-consuming step in the loan origination process. Digitalizing credit assessment processes will help banks in reducing the TAT, improving the accuracy, and deal with pressures caused by constantly changing regulations and investor expectations. The digital lending platform has powerful tools that can create and launch an intelligent and fast-moving credit monitoring system, and a robust lending solution for credit risk management.

The primary purpose of this Credit Engine is

1. To support configuration and changes in complex credit assessment models.
2. Develop dynamic credit models to derive sources from non-traditional sources.
3. Lowering credit risk of the application.

V. CONCLUSION

The digital transformation of banks has just begun. Today we are in the first phase, where most traditional banks offer their customers a high level of digital platforms. Another option is one where digital becomes not just an added feature but an integrated digital experience where customers use a smartphone or tablet to do everything from applying for a loan to making repayments.

This study focuses on digital lending, it is conceptual framework, growth, and factors contributing to digital lending. This paper combines research from multiple reports and analyses how the industry is shaped currently. The paper also analyses how digital lending has revolutionized the field of lending across the world. Digital lending is powered by new technology and business models. Digital lending is started to come up as a new alternative to traditional lending due to its cost-effective, less time consuming, and efficient approaches.

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