



EASE 4.0 – INDIAN PUBLIC SECTOR BANKS TO BECOME DATA-BASED BANKS

Abstract

EASE (Enhanced Access and Service Excellence) is a reform agenda for Indian Public Sector Banks by IBA (Indian Banking Association) with a push from RBI and the Indian government. This reform agenda tries to create a performance measurement index (~140 indicators) where all PSBs must compete. IT agenda of this reform is to transform PSBs to data-based banks in the digital age, where banks can utilize the technologies which could place them in the same competitive scale as that of private and international banks. This paper focuses on the EASE 4.0 agenda for Indian Public Sector Banks to implement the required IT solutions.

EASE Introduction

EASE is a reform initiative which dictates the performance index for PSBs to achieve the targets of becoming CLEAN (Clean credit, Leveraging data, Ensuring accountability, Action against defaulters, NPA recovery) and SMART (Speed, Multi-channel reach, Accessible and affordable, Responsive, Technologically enhanced) banks using hardwired IT solutions [2]. EASE does not provide any framework to implement these performance targets, and this is where IT solutions driven by the banks in collaboration with their IT teams come into play. Failing to meet the targets pushes PSBs into PCA framework under RBI.

The Journey so far:

EASE 1.0 in FY19 focused on creating solid foundations and related themes, such as:

- Mobile banking, home banking and grievance redressal was considered under Customer Responsiveness theme
- For large-valued stressed loans, SAMV (Stressed Assets Management Vertical) was introduced via Responsible banking theme
- Risk appetite frameworks (index to track it) and risk-based pricing were introduced to improve governance and financial stability
- Bank-Mitras were introduced to provide branch equivalent services near-home
- For financial inclusion, micro-insurance coverage was enhanced
- PMS (Performance Management System) was introduced to develop personnel for Brand PSBs

EASE 2.0 in FY20 was launched for CLEAN and SMART banking agenda:

- LMS (Loan Management Systems) were in focus to bring tracking and better processing
- For time-bound action for stress loans, EWS (Early Warning Signals) and IT monitoring systems were introduced
- Recovery arrangement focus was introduced
- Performance centric HR system was introduced
- Multi language support on mobile and home banking was introduced
- For effective governance, WTD (Whole Time Directors), board members and leadership were equipped under it

EASE 3.0 reforms were launched in FY21:

- Fast paced digital transformation considering customer adoption across PSBs
- Smart lending was a key theme introduced under EASE 3.0 to simplify access to credit through initiatives such as 'Dial-a-loan' for origination of loans through digital channels available 24x7
- 'Credit@click' for MSME loans and retail customer to reduce end-to-end processing time
- Use of analytics to increase the reach to existing customer for auto approved credits and offers

EASE 3.0 report from FY21 suggests the below progress:

- With completing implementation of IT based Early Warning System (EWS) by all PSBs in EASE 2.0, coverage under it has increased significantly. INR 33 lakh crores loan book covered under EWS at the end of March 2021.
- 14 regional languages such as Assamese, Bengali, Gujarati, Hindi, Kannada, Kashmiri, Konkani, Malayalam, Marathi, Odia, Punjabi, Tamil, Telugu for the ease of customers is being offered over internet banking, mobile banking and across call centers.
- INR 31,817 crore profit was reported in FY21 by PSBs whereas in FY20 it was a loss of INR 26,016 crore. In five years, it was the first-time profit was reported by PSBs.
- INR 6.16 lakh crore was the total gross NPA (non-performing assets) as of March'21, which was INR 62,000 crore less from March'20 levels.
- 2,903 was the number of frauds at PSB in FY20-21 compared to 3,704 in FY18-19. [1]

EASE 4.0 Initiative

Now that the strong foundation has been laid by the PSBs, they are looking to extend their reach at grassroots level in the country and want to be aggressive by harnessing the power of the data and the new technology trends that were adopted in last few years or are in the process of adoption. As per the EASE 4.0 initiatives the PSBs are looking to meet below aspirations:

Smart Lending for aspiring India	Enhanced dial-a-loan for doorstep facilitation Enhanced credit@click: End-to-end digital retail and MSME for New to Bank customers Analytics-based credit Offers
Data-enabled agricultural financing	Dial-a-Loan for Agri Loans Partnerships with AgriTechs for data exchange Automated processing and sanctioning
24X7 banking with resilient technology	Deeper penetration of Mobile and Internet Banking Cloud-based IT systems and improved cyber resilience Process automation
Collaborating with financial ecosystem	Digital payments in semi-urban and rural areas At scale delivery of doorstep banking services Co-lending with NBFCs



Implications of EASE 4.0 for PSBs -

1. Data-enabled Agricultural credit:

Challenge: As per EASE Reforms Index for the First Quarter of FY22 only 3.3% of KCC applications were initiated through mobile app.

What banks need to do:

1. For Data-enabled Agriculture credit, banks need to gather agriculture sector data from AgriTech sources, Government departments, Agriculture Institutes but there is no single framework which could enable data exchange
2. Data would be needed at District, Zonal, Village level about weather prediction, ground water, soil card details, number of animals in the area, Mandis, crop patterns, etc. For any agriculture sector loan, below are the minimum criteria which could be done faster using IT solutions:
 - a. KYC: It can be done using a mobile applications within minutes
 - b. Verification of land ownership: Digitized records for the land with government authorities is one of the prime areas of focus. For land records verification, the PSBs should look for integration with government departments where applicable
 - c. Cropping pattern: Underwriting of loans could be done with Bank Statement of customer and supportive data like Yield estimation, Pest forecast, Weather forecast, Crop detection and rotation, Water stress area, harvest date could be gathered from AgriTech companies using APIs
3. Agriculture loans domain has multiple categories of products which are supported by Banks:
 - a. Crop Loan/ Kisan Credit Card (Retail Agri Loan)
 - b. Term Loan, Drip Irrigation Loan
 - c. Farm mechanization Loan, Solar Pump Set Loan, Bio-Gas Loan

d. Allied Activities Loan

e. Horticultural Loan, Agricultural Gold Loan, Forestry Loan

All these types of loans would need equally different and huge data points to help the underwriting and digital processing of the loans

Sample Use Case:

1. To create automated approval for crop loan, banks would like to know potential commercial crops which it could approve for the district to support agriculture export. For this purpose, banks would like to know major crops of the season, ground water level of the area, weather forecast and past records of the crop in internal level [3]
2. To authorize sugar cane crop loans, important information is that it takes 12-18 months' time to harvest from sowing depending on geolocation of the farmland. There would be more risk to it compared to crops such as wheat. Both crops would have different risks associated to it and could thus have different interest rates [3]

For this purpose, banks would need to gather data from eNAM portal [9] for potential price and demand, soil card details, water level information and crop details from Institutes like Indian Council of Agricultural Research (ICAR) institutes, State Agricultural Universities (SAU), Krishi Vigyan Kendra (KVK), Smart farming information from AgriTech companies registered with the bank and farmers interest from Kisan call centers.[5]

All these collaborations could help to gather the data which would be useful in creating automated loan approval processes and reach out to potential customers.

2. Collaboration amongst financial ecosystem players

Challenge: As per EASE Reforms Index for the first quarter of FY22, collaboration for "synergize outcome index" [4] declined compared to last rating. It indicates PSBs

need to bring a long-term strategy to collaborate with other entities involved in the ecosystem.

What banks need to do:

1. With changing spending patterns of customers, banks also need to increase their presence in locations such as e-commerce sites, agro-commerce sites, POS, insurance companies and agriculture machinery outlets
2. Banks would need to collaborate with other banks or NBFs where the need for co-lending arises
3. Data gathering activities would be increased where banks would need to get data from AgriTech companies and other institutes to get expertise on industry patterns, etc.
4. Integration with government portals like GST, DigitLocker, Aadhaar, state department for land records where its available
5. Agriculture data from AgriTech, AgriClinic, Krishi Vigyan Kendra, State departments, NABARD and Agriculture Institutes.[7][8]
6. Social media management for customer complaints, redressals and to manage the bank's brand

Sample Use cases:

1. PSBs would like to respond to customer complains on social media to improve their image in the market. It could be done by integrating Grievance redressal system with social media platforms
2. To know whether a customer has other loans on their family and not directly on the customer, could be identified using 'Samagrah ID' (it is being used in Madhya Pradesh) [6] which is for a single household. This could indicate better risk on the profile compared to single Aadhaar ID

These changes need a framework between the players for collaborations.

3. Smart Lending for Aspiring India

Challenge: As per EASE Reforms Index for the first quarter of FY22, banks scored 34.4/100 as average rating on Smart lending initiatives [4]

What bank needs to do:

1. Due to covid, lending needs have increased all over the world and banks need platforms which are easy to manage, gives flexibility for frequent changes, automates the processes, and could be integrated via APIs
2. PSBs need to automate loans on click, capabilities to sanction loans for MSME in 59-minutes, or Agriculture loan up to 2 lacs within a day. Banks needs to improve on Straight Through Processing (STP) solutions for Lending via pre-approved loans and amount categories applicable to customer profiles
3. For easy customer reach, eligibility check and EMI calculators for each product on the bank's website and mobile application would be useful
4. Request for Loan or query of the product via SMS, call, mobile, internet and chat would make it easy for customers to reach the bank
5. Complete Digital lending solutions:
 - a. Lead management, Loan Origination system and Loan Management system should be part of complete and stagewise SLA framework
 - b. Introduce new analytics-based offers to existing MSME customers, e.g., preapproved new loans, overdraft and term loan limits based on bank transactions, income tax and GST returns, transactions on e-commerce portals, and other operational data
 - c. Design and performance improvements to existing technology systems to facilitate co-lending

Use Case:

1. As per PBI site, north-eastern states in India have higher CASA (Cash Account and Saving Account) and banks might need to increase its lending in these states. This would need customer profiling and lending process to bring confidence in customers to reach out to bank for better solutions [1]
2. With SMART lending, banks would like to avoid NPA situations where they can have collateral management system linked with Loan Management System where quarterly valuation could be checked

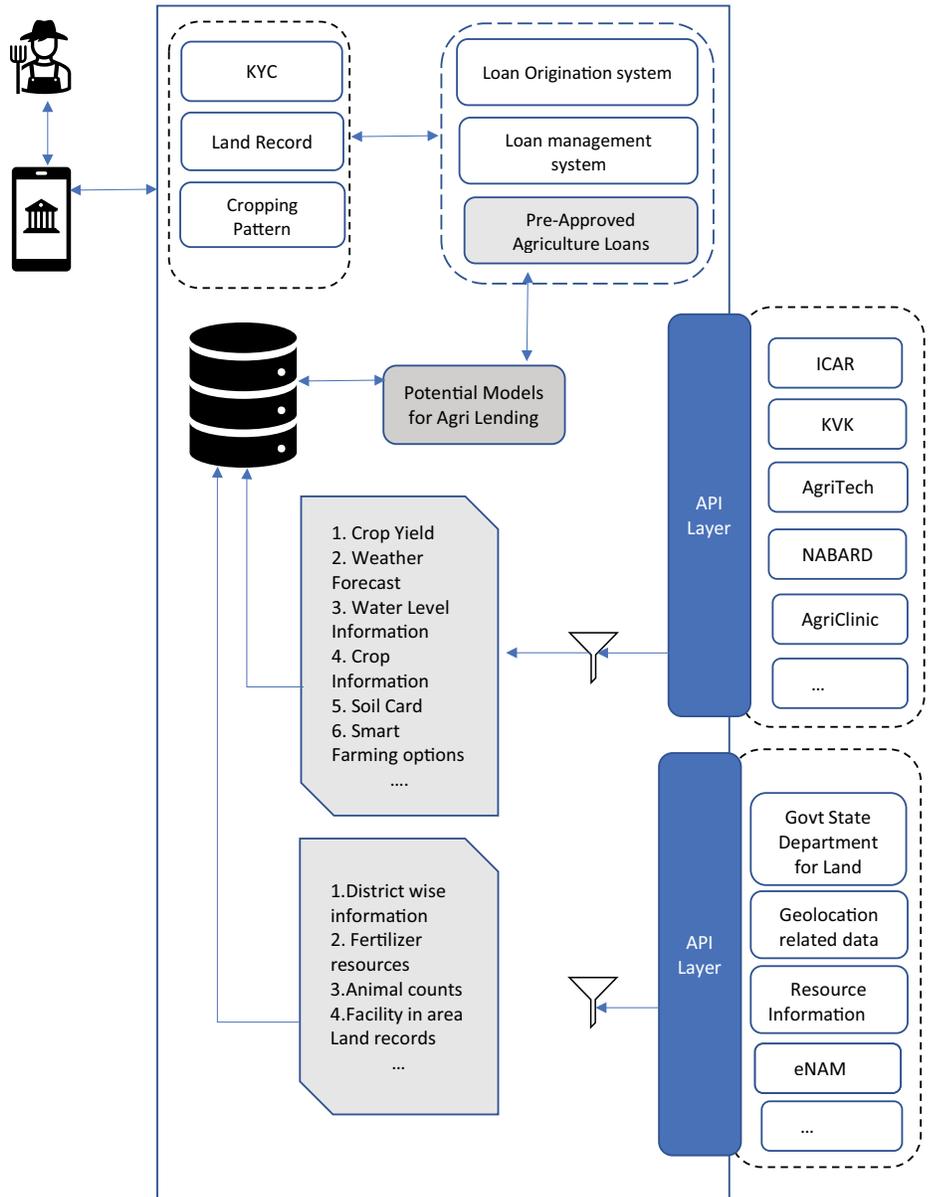


24x7 Banking with Resilient Technology:

Challenge: EWS - There have been 80+ signals on Early Warning System which few PSB have configured. It needs continuous improvement in the area further. [4]

What banks need to do:

1. PSBs have adopted Early Warning System but only 6 out of 12 banks have flexibility on triggers for EWS. Also, only 4 out of 12 use it to their benefit. [4]
2. Recalibrate triggers and thresholds based on past portfolio performance, experience of efficacy of the triggers, and nature and frequency of actions
3. Refine EWS models for dynamic assignment of weights based on importance of warning signals and generation of alerts based on patterns and correlation in data set
4. Technology enablement of collections team for time-bound actions through— (i) Real-time portfolio status and progress monitoring; (ii) Analytics-based watchlist and alerts; and (iii) Visibility to centrally sent communication such as SMS and e-mail to past-due customers
5. Analytics-based model to predict default patterns based on customer history
6. Fast-track migration of IT systems to secure cloud-based solutions in line with board-approved roadmaps and within the prescribed regulatory framework
7. Audited, time-bound fail-over testing in line with board-approved policy
8. Fast-track implementation of advanced cybersecurity measures such as Zero trust network segmentation, Artificial Intelligence, and Machine Learning-based threat detection, cloud resilience and security, API security and analytics-based cyber risk quantification



Data Backed Agriculture Loan – Figure 1



Infosys Recommendations

Super App - Single App for all customers services

Super App can make interaction between customers and banks easier. It can also boost the bank's brand image when the customers are happy with the services. Banks need to draw a maturity model of the app in terms of inclusion (senior citizen, divyang, first time digital customers, millennials) and ease of use (less to no text input, autofill of data, suggestions on schemes). Some specific suggestions below:

- Banks should look for login with fingerprint on a smart phone, simple 4-digit login code or facial recognition options would make it more inclusive and customer friendly
- There should be document scanner and verification facility with the app
- Video based KYC, interaction with Bank Mitra via mobile phone and integration of these KYC with schemes for better customer experience.
- Integrate all services of bank into single app to make it single window for customers. Like, E-Bikray integration on the mobile app should be a feature on mobile app to give a complete financial solution for the customers along with other products from insurance, government scheme, tax payments and bill payments using QR codes
- PSBs should have resilient IT infrastructure to support the app

Digital Upgrades to Existing Applications and API based integration within the Bank's IT Applications

1. Banks should access the applications which they use and categories them for cloud migration, enhancement, demise path and introduce new applications with fits the digital roadmap
2. IT Governance model should be implemented which drives the excellence in resilience of Bank's IT and regular checks for disaster recovery, Business Continuity model, 3 years check

on performance of each application should be implemented

3. APIs create layers which could be utilized to integrate any application within the banks and potential to push all the data into a centralized database for analytics
4. These APIs could be used to check Compliance parameters on individuals, branches, and products. Dashboards could be created for easy governance within the bank
5. APIs could help bring the data, tracking and real-time updates once a category for usage is decided
6. There are banks in UK who have created whole bank using nearly 1600 APIs. Banks can manage these APIs and its proven solution for fast paced changing industries

API based data exchanges:

- In absence of a common framework for data collaborations with varied parties, banks should create their own interaction framework with others using APIs. Where, banks should drive its needs and based on these needs, could ask for data from other organization like – AgriTech, Institutes for forecasting on Agriculture, AgroCommerce sites etc.
- Bank should gather data from 5-6 sources to consider it for clear data and could mark it as correct information.
- It would need a Sandbox setup where the external participants can register and test their APIs. This would cover all the technical documents related to APIs which any integrating partner would need to understand
- A registration database for making sure only registered and approved requester (external party) is reaching out to bank
- Banks would need a team to perform similar tasks when it would be the requester of data with other sources

Cloud, Bigdata and analytics:

1. There is a need for categories of data which banks would like to target. For

example – on Agriculture loans bank would like to maintain data on soil, crop, seed, weather, etc. Plus, banks would also need animal population details. This is completely different from retail loans.

2. A dedicated database which gets feeds from all the banks' applications. It would need to send back that information to the mobile app, Bank Mitra and other applications where information is needed to support the operations. This will move to data backed operations eventually
3. ML, AI, and NLP are the solutions for these demands on analytics
4. Cloud is the best cost-effective option for this solution but with RBI regulation of local data requirements, it must be placed in India data centers only
5. A rule that if 5-6 sources suggest positive information then it could be marked as verified. With a success on 1 product, similar logic could be applied to reach out to other potential customers as well

Digital Applications for Lending:

- End to end digitization of consumer loan origination, loan management and collection processes
 - Quick loan approval as soon as customer provides information
 - Implementation of eKYC, Machine Learning, Artificial Intelligence, Robotic Process Automation, and digitized processes for efficient underwriting
 - API integration with third party vendors for e-KYC, automatic document verifications and property details and credit check
- Partnership with FinTechs to achieve the goal of digitization
- Each process should be implemented independently and designed in a modular approach so that single module failure doesn't cause system failure. For instance, application submission process should work seamlessly even while underwriting module is down

Glossary of Terms

Term	Expansion
EASE	Enhanced Access and Service Excellence
IBA	Indian Banking Association
RBI	Reserve Bank of India
PSBs	Public Sector Banks in India
PCA	Prompt Corrective Action
SAMV	Stressed Assets Management Vertical
PMS	Performance Management System
LMS	Loan Management System
EWS	Early Warning Signals
WTD	Whole Time Directors
MSME	Medium, Small and Micro Enterprise
Mandis	Agriculture Products' market in India
eNAM	electronic trading portal of National Agriculture Market
ICAR	Indian Council of Agricultural Research institutes
SAU	State Agricultural Universities
KVK	Krishi Vigyan Kendra
POS	Point of Sale
NBFC	Non-Banking Financial Company
NABARD	National Bank For Agriculture And Rural Development
NPA	Non-Performing Asset
Aadhaar Card	Unique Identification of each Indian citizen
Samagrah ID	Unique Identification of a single household where all Aadhaar IDs are linked

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About the Authors



Aatish Jain

Senior Consultant , Banking Practice , Financial Services Domain Consulting Group, Infosys Limited

Aatish has 11 years of across IT, Business Analysis and consulting experience. He has worked extensively on payments for gateways and channels both. His recent experience is on Open Banking where APIs are the key to integrate within the banks and external parties as well.



Rahul Godbole

Principal Consultant , Banking Practice , Financial Services Domain Consulting Group, Infosys Limited

Rahul has more than 17 years of comprehensive IT , domain and process consulting experience. In present, he manages and supports several strategic programs. He is an accomplished thought leader and has many whitepapers and point of views published.

For more information, contact askus@infosys.com

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