DIGITAL KYC: REDUCE DROP-OFF, LIFT CONVERSION

Project Report

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Roll No.: DB.14
Assam Don Bosco University

Shikhamoni Borah
shikhamoniborah03official@gmail.com | 9435663058

1. Introduction

The bank recently introduced a Digital KYC process to streamline customer onboarding and reduce dependency on physical verification. However, since its launch, the system has been facing high rejection rates, slow turnaround time (TAT), and increasing customer abandonment. The current multi-step process requires users to select the type of KYC document, scan the selected document, upload it, scan a photograph, and upload a real-time image. While the digital approach intends to simplify onboarding, several operational gaps and technical bottlenecks have led to higher drop-offs and failed attempts. Each user receives three attempts at every stage, and upon reaching the fourth attempt, the system automatically rejects the customer, contributing to churn and poor experience. This report provides a comprehensive analysis of these issues, supported by the dataset provided in *Digital KYC Data Dump*, and proposes holistic solutions to reduce drop-offs, improve speed and clarity, and ultimately lift conversion.

2. Analysis of Current Performance Based on Dataset

The provided spreadsheet contains KYC event logs with customer IDs, stage names, attempt counts, failure percentages, time taken at each step, and associated error messages. A detailed review of this dataset reveals multiple systemic issues across the KYC workflow.

One of the most significant observations relates to the time taken to complete various steps. Although the recommended duration for each stage is ideally below 15–20 seconds, many entries indicate processing times extending to 30–40 seconds, particularly during scanning and uploading stages. Such delays are critical contributors to customer frustration and abandonment.

The failure trends recorded in the dataset align closely with the summary failure percentages provided earlier. The *Scan Document* stage shows the highest failure rate of 35%, followed by the *Upload Document* stage at 25%, and then the *Select Document Type* stage at 15%. Additional failures arise during the *KYC Check* (15%), often due to duplicate KYC entries or incorrect details, while the final *KYC Approval* stage contributes another 10% failure due to mismatched photographs or document inconsistencies.

The error messages captured—such as *"Please scan the correct document"*, *"Upload the selected document"*, and *"KYC data not found; please upload correct KYC"*—indicate that users struggle primarily with incorrect scanning, mismatched document uploads, and backend validation failures. Moreover, a considerable number of customers reach their third attempt, especially at document scanning and uploading stages, suggesting that guidance and feedback during the process are inadequate.
The dataset therefore highlights a mixture of user-driven errors, system performance issues, and interface design limitations.

3. Root-Cause Diagnosis Across the KYC Journey

A stage-wise analysis helps in understanding why drop-off rates are so high.

3.1 Select Document Type

Although this stage seems simple, the failure rate of 15% reflects confusion arising from unclear instructions or insufficient guidance regarding acceptable document combinations. Since PAN and Aadhaar are mandatory for digital onboarding, customers who select other documents first are more prone to making incorrect choices, leading to early friction in the journey.

3.2 Document Scanning

This is the most problematic step, with a 35% failure rate. A majority of issues stem from customers capturing low-quality images due to poor lighting, blurred focus, shadows on the document, or improper framing. Many smartphones struggle to autofocus quickly in low-light or reflective environments, which extends capture time. Additionally, the system does not appear to offer real-time feedback or auto-correction features, leaving customers uncertain about whether their scan is acceptable. The longer processing time observed in the dataset further amplifies user frustration.

3.3 Document Uploading

With a 25% failure rate, this stage reveals both user-side and technical issues. Customers often upload incorrect formats, low-quality files, or mismatched documents (such as uploading

Aadhaar after selecting PAN). On the technical side, uploads fail due to network instability or backend storage latency. The dataset includes several instances where upload times exceed recommended limits, confirming server performance as a major factor in user abandonment.

3.4 KYC Check

The KYC Check stage suffers from duplicate KYC detection, mismatched data extracted through OCR, and non-compliance with mandatory rules such as passport validity or PAN–Aadhaar pairing. These backend mismatches cause customers to redo earlier steps, resulting in repeated attempts and eventually leading to automatic rejection.

3.5 KYC Approval

The final stage has a 10% failure rate, typically due to photograph mismatches between the uploaded photo and the real-time selfie. Facial recognition inaccuracies, poor lighting during selfie capture, and outdated passport-style photos cause the system to flag mismatches. Customers may not understand why their picture is rejected, resulting in unnecessary reattempts.

4. Proposed Solution Framework

The solution requires an integrated approach addressing user experience, technical optimization, operational accuracy, and customer communication. The following framework is designed to reduce drop-offs, enhance speed, improve clarity, and minimize resubmissions.

4.1 Enhanced User Experience (UX) and Guidance

Improving the interface can address a large proportion of user-driven failures. Instead of simple dropdowns, the system should intelligently recognize and recommend the correct document types. For example, if a customer selects PAN, the interface should immediately inform them that Aadhaar is also mandatory, preventing incorrect sequencing.

The scanning interface should offer real-time visual assistance—such as sample images, edge detection, blur alerts, and automatic capture when clarity is optimal. These enhancements drastically reduce improper scans and help guide customers toward successful submissions on the first attempt.

4.2 Strengthening Technical Reliability and Reducing TAT

Most delays arise from heavy image processing and sluggish server response. Implementing pre-upload image optimization—compressing files while preserving clarity, adjusting brightness, and enhancing sharpness—can significantly reduce transmission time and improve quality for backend OCR.

Furthermore, introducing a caching layer for common verification rules and pre-validating document attributes (such as passport expiry) before upload reduces unnecessary server calls. Load-balancing and scaling backend OCR and validation services during peak hours will ensure that processing times remain within the recommended 10–15 seconds.

4.3 Reducing Resubmissions and Attempts

The current model, which automatically rejects customers after the fourth failed attempt, contributes heavily to customer churn. A more intelligent retry mechanism is needed. After each attempt, the system must provide increasingly detailed guidance. On the third failed attempt, the system should intervene with enhanced support, such as auto-optimization tools, clearer instructions, or even an in-app help chat. Instead of auto-rejecting at the fourth attempt, the system should route the case to a human-assisted fallback review, thus saving customers who are genuinely struggling with technical barriers.

4.4 Improving Transparency and Next-Step Visibility

One of the major pain points is the lack of clarity about what stage the user is in and what comes next. Introducing a visual KYC Progress Tracker that indicates the completion status of each step—document selection, scanning, uploading, verification, and approval—reduces uncertainty. Users who are informed and confident about the process are significantly less likely to abandon it.

The tracker should also show contextual instructions. For instance, if the KYC Check stage fails due to a duplicate record, the user should be explicitly notified and directed to the nearest branch or provided with a resolution link, rather than facing repeated failures.

5. Expected Outcomes of the Proposed Improvements

The combined impact of enhanced UX, faster processing, intelligent retries, and improved transparency is expected to deliver measurable improvements across operational, customer, and business metrics.

By optimizing scanning, pre-validating documents, and eliminating server bottlenecks, the failure rate in the *Scan Document* and *Upload Document* stages can be significantly reduced, bringing overall drop-off rates down from 35–40% to approximately 10–15%. Similarly, the average time per step would decrease from the current 25–40 seconds to a stable 10–15 seconds, directly improving user satisfaction.

Enhanced guidance and the removal of hard rejections at the fourth attempt will reduce unnecessary resubmissions by 50–60%, improving the overall conversion funnel. Finally, better transparency through progress tracking will increase the customer's confidence and improve completion rates across all demographic segments.

6. Recommended KPIs for Continuous Monitoring

To ensure ongoing improvement, the bank should track operational KPIs such as average processing time per step, API response time, backend OCR accuracy, and failure rate per stage. Customer-centric KPIs—including drop-off rate, number of attempts per user, and customer satisfaction—should also be monitored.

Key business KPIs include the number of successfully onboarded customers, reduction in manual KYC workload, and the overall digital onboarding conversion rate. These indicators will help determine whether the implemented improvements are yielding the expected benefits and where further refinements may be necessary.

7. Conclusion

The Digital KYC process represents a crucial opportunity for the bank to accelerate customer acquisition and enhance digital engagement. However, the current system faces significant challenges that contribute to high drop-offs and operational inefficiencies. By adopting the solutions outlined in this report—ranging from improved user guidance and interface design

to technical enhancements, smarter retries, and clearer communication—the bank can dramatically reduce abandonment, improve turnaround time, and lift conversion across all segments.

These changes not only enhance customer experience but also strengthen compliance accuracy, reduce workload on backend operations, and position the bank as a leader in seamless digital onboarding. The insights derived from the dataset offer a clear roadmap for transformation, and the proposed framework provides practical, actionable steps toward achieving a frictionless, high-conversion KYC process.