

1. Executive Summary

The Problem: The primary Key Performance Indicator (KPI) for onboarding—the applicant "Pass Rate" (defined as successfully passing both Document Check and Facial Similarity Check)—has shown a significant decline over the recent period.

The Findings: Our analysis confirms that the decline is **not** linked to the biometric facial matching process, which remains stable. The bottleneck lies entirely within the **Document Check** stage.

The root cause is a marked increase in technical failures related to the uploaded documents, specifically **Image Quality** and **Image Integrity**. When these checks fail, the system cannot extract critical data (such as Document Type or Gender) from the ID. The absence of this mandatory data forces the system to issue a "Consider" (reject) verdict by default.

Recommendation: Immediate efforts must focus on the user-facing image capture experience to improve the quality of incoming document images.

2. Methodology

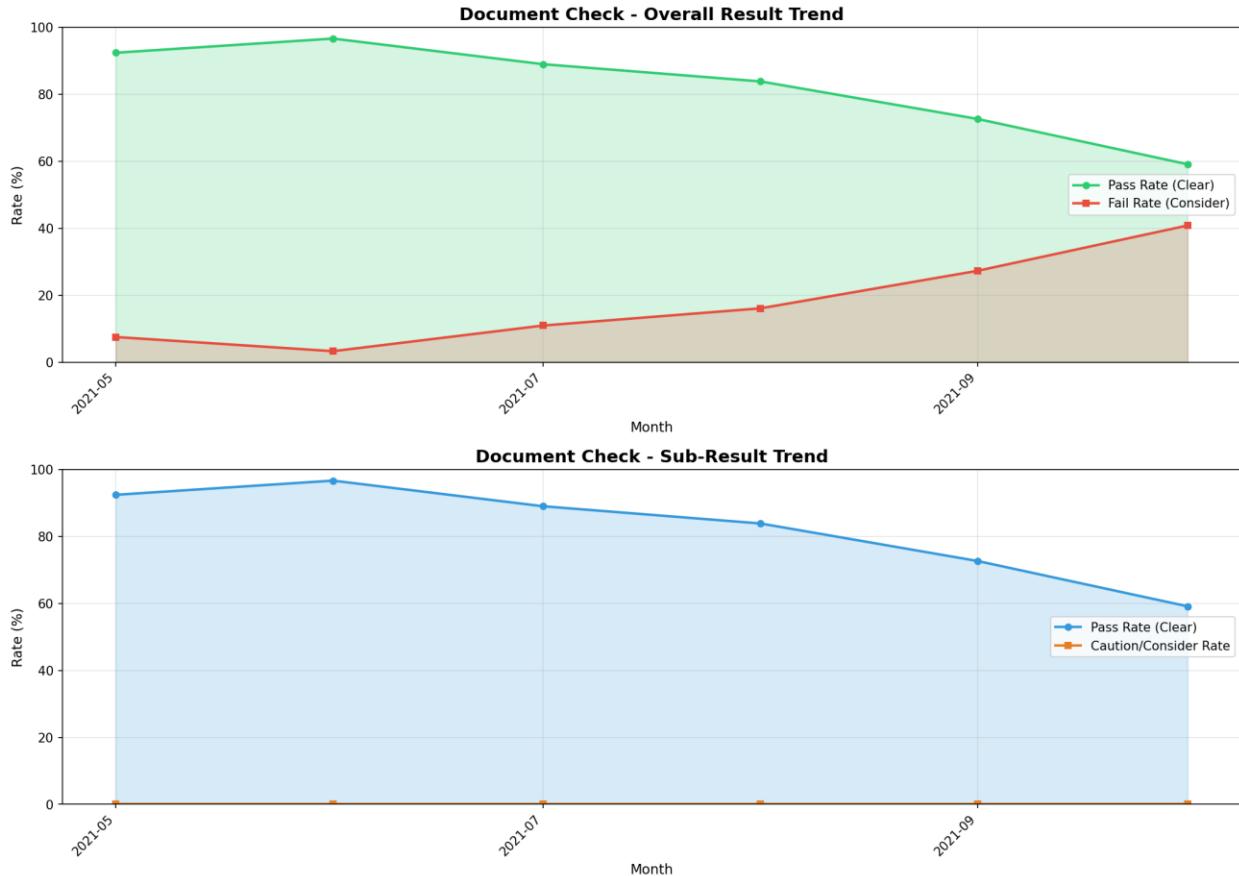
We performed a quantitative analysis of the onboarding data, merging the `Document-check-report` and `Facial-similarity-check-report` datasets based on unique User IDs and attempt timestamps. We segmented the data by time periods to isolate the trend and compared the failure rates across specific validation columns within both datasets.

3. Detailed Analysis & Findings

3.1 Isolating the Problem Stage

The onboarding process requires two distinct passes: a Document Check and a Facial Check. A user must pass both to be counted in the successful Pass Rate KPI.

Our initial segmentation revealed a clear divergence in performance between these two stages. While the Facial Similarity Check pass rates have remained relatively flat and stable over time, the Document Check pass rates have plummeted, directly mirroring the overall KPI decline.



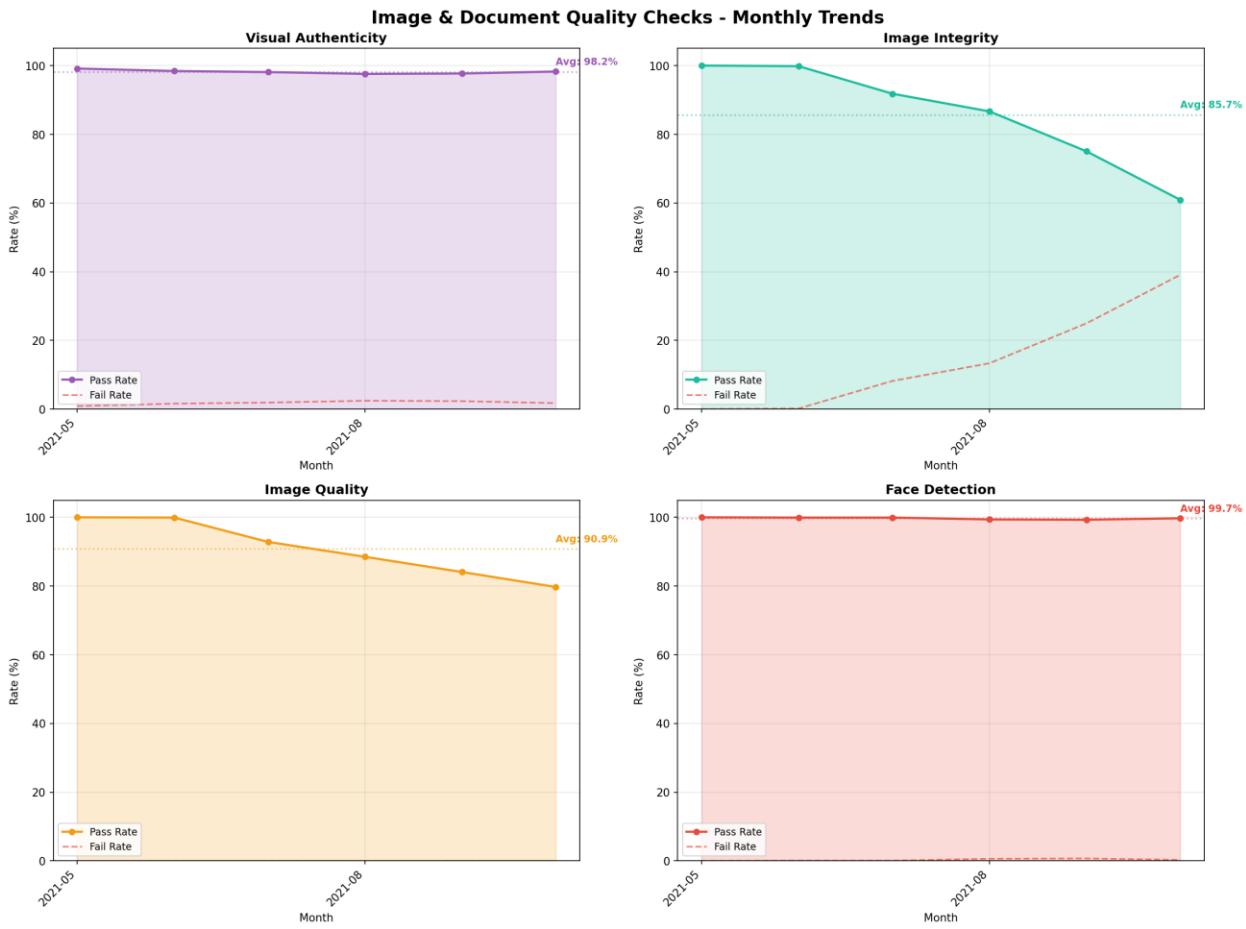
Placeholder Description: A line chart showing two lines over time. Line A (Facial Check Pass Rate) is steady/flat. Line B (Document Check Pass Rate) is declining sharply.

3.2 The Root Cause: Technical Image Failure

Having isolated the issue to the Document Check stage, we investigated the specific sub-results that lead to a "Consider" (fail) verdict.

The analysis revealed that the decline is not due to fraudulent documents or data validation mismatches (e.g., expired IDs). Instead, it is driven by technical intake failures. Two specific metrics have seen a surge in failures:

1. `image_quality_result`: The image is too blurry, too dark, or has excessive glare, preventing readability.
2. `image_integrity_result`: The uploaded file itself is corrupted or in an unsupported format upon upload.



Placeholder Description: A stacked bar chart over time, showing the total number of Document Check failures. The bars are colored to show that the proportion of failures caused by "Image Quality" and "Image Integrity" is growing significantly larger over time compared to other reasons.

3.3 The Consequence: Data Extraction Failure

A poor-quality image is not just a technical issue; it causes a fatal business logic error.

When image quality or integrity fails, the automated data extraction system (OCR) cannot read the text on the ID card. Consequently, critical fields within the document's properties metadata—such as `document_type`, `gender`, and `issuing_country`—cannot be determined.

Our data shows a high correlation between failed image checks and these properties being returned as "Unknown." Because our business logic requires these fields to be known to validate an applicant, an "Unknown" status triggers an automatic rejection.

4. Recommendations / Next Steps

To reverse the decline in the Pass Rate KPI, we must address the input quality of the document images. We recommend the following actions:

1. **Enhance Front-End User Guidance:** Review the user interface during the document capture step. Implement real-time feedback (e.g., "Move closer," "Too much glare," "Hold steady") to guide users toward taking higher-quality photos.
2. **Review Technical Thresholds:** Collaborate with the engineering team to review the current thresholds for `image_quality_result`. Ensure we are not being overly punitive on marginally acceptable images that could still be readable by a human reviewer.
3. **Device Segmentation Analysis:** Further analyze the failed `image_integrity_result` cases by device type (iOS vs. Android) or browser to see if a specific technical integration is causing file corruption during upload.