Core Digital Transformation for Retail Banking

Key Findings · Key Recommendations · Conclusion

ABC Bank · February 18, 2026 · Version 1.0

Key findings

1	**86%** *key metric*	**6 of 7 PoC success criteria fully met — Conditional Go approved** The Proof of Concept confirmed that the core microservice architecture, Kafka event pipeline, and PostgreSQL integration are all viable for production. Only one criterion — cloud object storage synchronisation — was partially tested and deferred. A Conditional Go decision was issued, with three prerequisite actions required before staging promotion.
2	**2 Gaps** *key metric*	**2 of 7 RTM requirements had zero test coverage — critical gaps confirmed** The Requirements Traceability Matrix review revealed that RQ-04 (fraud detection boundary at ₹1,00,000 threshold) and RQ-05 (Kafka consumer validation with 500ms SLA) had no test cases at all. Eight test plan issues were annotated, including missing MFA failure tests and absent AML escalation scenarios, demonstrating that the original test plan significantly underestimated negative and edge-case coverage needs.
3	**99.9%** *key metric*	**9-stage DevSecOps CI/CD pipeline with RTO < 1 hr and RPO < 15 min established** A full 9-stage CI/CD pipeline (code commit → build → SAST security gate → automated testing → staging → approval gate → blue-green production deploy → rollback → audit logging) was designed and validated. Six KPIs were defined with alert thresholds, a 4-level escalation path, and a Tier-1 RTO target of under 1 hour and RPO of under 15 minutes for all critical banking services — meeting the 99.9% uptime SLA.

Key recommendations

1 **Close the two RTM coverage gaps before staging promotion** — Impact: Critical

Create TC-402 and TC-403 for fraud threshold boundary values (₹99,999 / ₹1,00,000 / ₹1,00,001) and TC-501–TC-503 for Kafka consumer offset validation with retry and timeout scenarios. Add these to the sprint backlog immediately. Expected impact: eliminates the two COVERAGE GAP entries in the RTM and ensures full traceability before any production deployment.

2 **Complete cloud object storage (IBM COS / AWS S3) integration testing** — Impact: High

The PoC deferred KYC document synchronisation to IBM Cloud Object Storage. This must be validated before go-live because KYC documents are a PCI-DSS and GDPR-regulated data asset. Target: confirm end-to-end write/read/delete operations with AES-256 encryption and cross-region replication within the next sprint. Expected impact: closes the one PARTIAL success criterion and enables full Conditional Go → Go conversion.

3 **Implement mTLS and OAuth 2.0 across all microservice-to-microservice calls** — Impact: High

The current PoC uses JWT at the API Gateway boundary but does not enforce mTLS for internal service-to-service communication. Before staging promotion, enable mutual TLS on all internal routes (auth ↔ onboarding ↔ loan ↔ fraud) and replace any static tokens with OAuth 2.0 client credentials flows. Expected impact: eliminates a zero-trust architecture gap and satisfies PCI-DSS Requirement 6.5 and FFIEC network security controls.

4 **Address skill silos with targeted cross-functional cloud training** — Impact: Medium

The SWOT analysis identified limited cross-functional cloud expertise as a structural weakness. A targeted 6-week training programme covering Kubernetes, Kafka, and DevSecOps practices should be run for all teams before the integration test phase. Pair learning with the ongoing CI/CD pipeline work. Expected impact: reduces dependency on a small number of cloud specialists, accelerates delivery velocity, and lowers key-person risk.

Conclusion

1. The Proof of Concept validated that a cloud-native microservices architecture — built on containerised services, Kafka event streaming, and PostgreSQL — is technically viable for ABC Bank's Core Digital Transformation. With 86% of success criteria fully met, the project is cleared for conditional progression to the integration testing and staging phases.

2. Test quality is the most immediate risk: the RTM review uncovered 8 test plan issues including 2 complete coverage gaps (fraud threshold and Kafka consumer), missing MFA failure tests, and absent AML escalation scenarios. Closing these gaps before staging promotion is non-negotiable for regulatory compliance under PCI-DSS and FFIEC.

3. The 9-stage DevSecOps CI/CD pipeline and monitoring strategy provide a production-ready delivery framework, with defined KPIs (API latency < 200ms P95, availability ≥ 99.9%, error rate < 0.1%), a 4-level escalation path, and Tier-1 RTO/RPO targets. With mTLS, OAuth 2.0, and cloud object storage testing completed, the architecture will fully satisfy the project's security, compliance, and resilience success criteria.

4. The transformation positions ABC Bank to achieve competitive differentiation through real-time onboarding (target: < 5 minutes), AI-assisted fraud detection (alert within 30 seconds), and a unified data warehouse enabling analytics-driven decision-making — directly addressing the strategic objectives set out in the Project Charter and BRD.