



TECH BLUEPRINT

Leveraging Agentic AI @ NBFCs with AI assisted Human Operations

A White Paper on Building Next-Generation Back-Office Operations

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Executive Summary

This White Paper explores how **Agentic AI**—AI solutions capable of autonomous decision-making and iterative self-improvement—can reshape back-office operations for **Non-Banking Financial Companies (NBFCs)**. NBFCs often handle sizable volumes of repetitive, high-stakes tasks, from regulatory compliance and credit underwriting to collections. **Agentic AI** modernizes these workflows by:

Agentic AI in NBFC

Automating complex decision-making processes (e.g., dynamic credit scoring, real-time fraud detection).

Streamlining compliance and reporting through continuous monitoring and automated alerts.

Enhancing risk management via predictive analytics that adapt to changing market signals.

Improving L&D through AI-driven staff training, skill assessments, and targeted upskilling.

Moreover, the paper highlights the operational advantages of setting up back-office centers in **emerging geographies**, balancing cost efficiencies, talent availability, and the opportunity to make a positive community impact. **Data governance** and **regulatory compliance** are spotlighted as critical success factors, with an emphasis on leveraging secure, scalable, and vendor-agnostic technology stacks.

Introduction to NBFC Personas and Agentic AI

NBFC Personas

In an NBFC, distinct “personas” drive daily operations and decision-making:

Credit Underwriters	Assess loan applications, perform due diligence, ensure compliance with standard lending policies.
Collections Officers	Manage overdue loans, design recovery strategies, and handle escalations with customers.
Compliance & Risk Managers	Oversee adherence to RBI (Reserve Bank of India) guidelines, AML (Anti-Money Laundering) requirements, and other regulatory standards.
Customer Service Agents	Provide multi-channel support (phone, email, chat) for onboarding, query resolution, and issue escalation.
Finance & Accounting Teams	Manage day-to-day financial tasks, regulatory reporting, and budgeting.
IT & Cybersecurity Staff	Ensure application stability, secure data management, and resolve technical issues.
Leadership & Strategy Heads	Set the long-term direction, new product roadmaps, and resource allocation strategies.

Agentic AI

Agentic AI is characterized by the ability to **act autonomously** and **continuously learn** from real-world interactions. In the context of NBFCs, such systems can:

- **Flag compliance risks in real time**, recommending corrective measures proactively.
- **Continuously refine underwriting models**, adapting credit scores to new customer segments or evolving economic conditions.
- **Deliver AI-driven staff training** recommendations, improving both frontline and managerial competencies over time.
- **Manage routine workflows** in real-time—such as responding to common internal help-desk requests or routine customer queries—minimizing human intervention in repetitive tasks.

Strategic Location Considerations

When establishing a back-office operation, NBFCs can benefit significantly from opening centers in **emerging geographies**, which offer:

Cost Efficiency

Real estate, utilities, and general overhead are typically more competitive than prime metropolitan hubs.

Talent Pool

Academic institutions and training centers in these regions produce a growing pipeline of motivated, adaptable professionals.

Scalable Growth

Fewer infrastructural constraints, allowing for phased expansion with minimal disruption and potential support from local authorities.

Community Impact

Firms can position themselves as catalysts for regional economic development, enhancing brand value and social commitment.

Comprehensive Back-Office Framework for NBFCs

Below is a thorough blueprint of the essential back-office departments within an NBFC and how **Agentic AI** integrates into each.

Operations

Customer Onboarding & Verification

e-KYC with AI-driven image/document validation.

Automated checks to reduce manual intervention and error rates.

Loan Origination & Underwriting

Adaptive risk scoring using machine learning on historical performance data.

Real-time fraud detection flags inconsistencies or anomalies in applications.

Collections & Recovery

Automated reminders for overdue payments (email, SMS, IVR).

Predictive analytics to prioritize high-risk accounts.

Risk & Compliance

Regulatory Compliance

Continuous alignment with RBI guidelines, AML, and data privacy laws.

Automated checks that integrate with internal systems to flag deviations.

AML & KYC Controls

AI engines analyze transactional patterns for suspicious activity.

Immediate escalation protocols for flagged anomalies or non-compliance.

Internal Audit & Governance

AI-augmented auditing tools generate real-time reports on process adherence.

Incident tracking for risk mitigation and future prevention.

Finance & Accounting

Accounts Payable & Receivable

AI-driven invoice matching, automated ledger updates.

Consolidated dashboards for accounts and vendor management.

Budgeting & Forecasting

Predictive analytics refine financial models to reflect changing market dynamics.

Scenario testing to plan for best-case, worst-case, and baseline outcomes.

Financial Reporting & Statutory Compliance

Automated generation of periodic statements, ensuring timely regulatory submissions.

Built-in controls and validations to maintain data integrity.

Human Resources & Administration

Talent Acquisition & Management

AI-assisted screening of resumes, skill-based assessments.

Local hiring strategies tailored to emerging geographies.

Payroll & Benefits

System integrations that automate payroll workflows and statutory obligations.

Transparent compliance with labor regulations.

Employee Engagement & Relations

Continuous feedback cycles, team-building initiatives suited to local cultures.

Performance reviews enhanced by data analytics.

Learning & Development (L&D)

Onboarding & Orientation

Structured e-learning modules, AI-driven to track progress and comprehension.

Tailored content specific to NBFC regulations and product knowledge.

Ongoing Upskilling

AI identifies performance gaps and recommends targeted modules or certifications.

Gamification elements to incentivize continuous learning.

Leadership Development

Data-driven assessments to pinpoint high-potential employees.

Personalized mentoring programs using AI-generated insights.

**Information
Technology &
Cybersecurity**
IT Infrastructure

Cloud-based platforms (IaaS, PaaS, SaaS) for hosting core applications (LMS, CRM).

Seamless integration with AI orchestration tools and APIs.

**Application Development &
Maintenance**

Agile DevOps pipelines for iterative improvements.

Proactive monitoring of system performance to handle traffic spikes.

Cybersecurity & Data Protection

End-to-end encryption, role-based access, and real-time threat detection.

24/7 SOC (Security Operations Center) capabilities ensuring minimal downtime.

**Strategy &
Innovation**
Research & Development

Exploring emerging AI models (e.g., reinforcement learning) to enhance risk analytics.

Piloting new products and use cases (e.g., micro-lending for niche segments).

**Process Improvement &
Automation**

Periodic audits to uncover process gaps; AI-based solutions to address inefficiencies.

Continuous improvement roadmaps for RPA expansions.

Partnerships & Alliances

Collaboration with fintechs, insurtechs, or academic bodies to test new technologies.

Outsourcing select services to specialized partners for faster go-to-market.

**Legal &
Corporate
Secretariat
(Optional)**
Contract Management

Document lifecycle management with automated version controls and secure e-signatures.

AI-driven clause extraction and risk scoring.

Board & Statutory Compliance

Transparent record-keeping aligned with the Companies Act.

Electronic board meeting documentation and archiving.

Agentic AI: The Core Enabler

AI-Driven Operations (RPA, ML, NLP)

1. **RPA** – Automates repetitive tasks (data entry, form filling) with minimal human oversight, cutting costs.
2. **Machine Learning** – Enables real-time credit scoring, risk modeling, and customer segmentation for smarter decisions.
3. **NLP** – Speeds up document classification and powers chatbots for customer service and internal support.

Data Governance, Security, and Regulatory Alignment

1. **Unified Data Governance** – Ensures clear ownership, classification, and audits for data consistency and compliance.
2. **Security Layers** – Implements role-based access, encryption, and regular security assessments.
3. **Regulatory Compliance** – Uses automated checks and real-time dashboards for AML, NBFC norms, and data privacy.

Infrastructure & Collaboration Platforms

1. **Cloud Hosting** - Vendor-agnostic cloud providers offering scalable infrastructure (IaaS/PaaS/SaaS).
2. **Collaboration & Communication Tools** - Enterprise-grade platforms (email, chat, video conferencing, file sharing) that integrate with AI workflows.
3. **Low-Code / No-Code Solutions** - Rapid development frameworks for building internal apps and automations without heavy coding overhead.

Industry Shift: Innovative Engagement Strategies for Back-Office Partnerships

Back-office operations have evolved from traditional service agreements to more **collaborative and outcome-driven** engagements between NBFCs and specialized vendors. As competition intensifies and compliance demands grow, NBFCs are exploring novel ways to **balance cost efficiency, scalability, and strategic value**. Below are some of the unique engagement strategies shaping the industry:

Volume-Based Partnerships

What It Is

NBFCs pay per transaction, process, or document handled. This model is especially common for routine, high-volume tasks like KYC checks, invoice processing, or data entry.

Why It's Popular

Scalability: Costs flex with operational loads—if business volumes spike (e.g., during festive seasons), the partnership seamlessly scales.

Budget Alignment: Predictable cost correlation to actual workload, making it simpler to forecast expenses.

Outcome-Focused Collaborations

What It Is

Vendors are incentivized based on meeting specific performance metrics (e.g., reduced turnaround time, improved collection rates, or compliance adherence).

Why It's Popular

Value Alignment: Both NBFC and vendor benefit when key performance indicators (KPIs) improve (e.g., fewer loan defaults or faster onboarding).

Innovation Incentive: Vendors are motivated to continuously optimize processes—whether through AI deployments, automation, or refined workflows—to meet (or exceed) agreed-upon targets.

Human Resource/Capacity-Based Models

What It Is

Vendors allocate dedicated resources (Full-Time Equivalents or FTEs), and NBFCs pay for the manpower's time and expertise.

Why It's Popular

Transparent Resourcing: Easy to know exactly how many people and skill sets are committed to the account.

Predictable Costs: Fixed monthly fees enable stable budgeting. This model is especially useful for specialized roles like compliance analysis, IT support, or AI/ML model management.

Hybrid or Co-Managed Frameworks

What It Is

Combines elements of volume-based, outcome-based, or capacity-based models. For instance, an NBFC could pay a base fee for guaranteed staffing (FTE model) plus a performance bonus for meeting specific KPIs (outcome-based).

Why It's Popular

Flexibility: NBFCs can tailor the engagement to unique operational needs—paying only for baseline requirements while still driving performance outcomes.

Risk Mitigation: Sharing risk and reward fosters deeper collaboration; both parties are invested in continuous process improvement

Strategic Partnering & Joint Ventures

What It Is

NBFCs and back-office service providers form a **long-term, strategic alliance** or even a joint venture, rather than a simple client-vendor relationship.

Why It's Popular

Deep Integration: Over time, vendors gain intimate knowledge of the NBFC's business, allowing them to propose transformative solutions (e.g., advanced AI underwriting models, new digital channels).

Shared Innovation Roadmap: Joint investments in R&D or pilot programs can produce unique competitive advantages, from niche product lines to next-gen analytics

Key Takeaway:

Modern NBFCs are **no longer content with one-size-fits-all service agreements**. They're gravitating toward **hybrid, performance-based, or strategic collaborations** that align incentives, share risks, and empower vendors to become **true transformation partners**. This shift ultimately **encourages innovation**, fosters **continuous improvement**, and ensures that **compliance, cost efficiency, and operational excellence** remain at the forefront of the back-office mandate.

Typical Implementation Roadmap to kick off Agentic AI for Backoffice Ops

Phase	Duration	Key Activities
Phase 0: Vision & Discovery	2–4 weeks	- Process & risk assessment - Data governance framework - Identify Agentic AI quick-wins
Phase 1: Pilot & Adoption	4–6 weeks	- Launch RPA for repetitive tasks - Deploy chatbots for Tier-1 customer queries - Basic staff training
Phase 2: Full-Scale Roll-Out	8–12 weeks	- Integrate AI models into underwriting & collections - Expand back-office automations - Rigorous compliance checks
Phase 3: Continuous Improvement	Ongoing	- Periodic AI model retraining - Additional automations & feature enhancements - Regular L&D updates

Conclusion & Next Steps

Agentic AI represents a turning point for NBFC back-office operations—particularly when combined with emerging geographies' cost advantages and a commitment to rigorous data governance. By deploying **automation, ML-driven analytics, and real-time compliance checks**, NBFCs can achieve:

- **Improved operational efficiency** with reduced manual workload.
- **Stronger risk management** driven by predictive modeling.
- **Enhanced service quality** via AI-assisted customer interactions.
- **Proactive compliance** aligned with evolving regulatory frameworks.

Recommended Next Steps

1. **Feasibility Study & Workshop:** Scope out immediate AI and automation opportunities with a cross-functional team.
2. **Pilot Execution:** Implement a limited project (e.g., robotic process automation for invoice reconciliation) to validate ROI.
3. **Scalable Roll-Out:** Expand successful pilots across the entire back office, integrating advanced AI modules.
4. **Ongoing Monitoring & Innovation:** Continuously train AI models, update compliance rules, and refine processes to stay competitive.

Appendix: Extended Use Cases for Agentic AI in NBFC Personas

1. **Credit Underwriter:** Agentic AI reviews new applicant profiles, checks against historical underwriting decisions, and issues real-time risk alerts or approval suggestions.
2. **Collections Officer:** Predictive analytics identify the most effective communication channel for each delinquent account, guiding personalized outreach.
3. **Compliance Manager:** Automated dashboards offer granular visibility into potential AML red flags, bridging gaps between field operations and regulatory oversight.
4. **Customer Service Agent:** Multi-lingual chatbots address FAQs round-the-clock, escalating complex cases to human agents only when necessary.
5. **IT/Cybersecurity Staff:** AI-based anomaly detection flags suspicious data patterns or unauthorized access attempts, allowing swift containment.

How Kadellabs Can Help

Kadellabs specializes in Agentic AI-driven solutions to enhance NBFC back-office operations with automation, predictive analytics, and regulatory intelligence.

- **AI-Powered Back-Office Automation** – Optimize credit underwriting, collections, and customer service with intelligent workflows.
- **Risk & Compliance Intelligence** – Ensure RBI, AML, and KYC compliance with real-time AI monitoring and fraud detection.
- **Finance & HR Optimization** – Automate financial reporting, invoice reconciliation, payroll, and workforce upskilling.
- **Secure & Scalable IT Infrastructure** – Cloud-native AI platforms with end-to-end encryption and cybersecurity controls.

With our proven expertise, we help NBFCs reduce costs, improve efficiency, and strengthen compliance through AI-powered transformation.

Contact Us

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We welcome the opportunity to discuss your NBFC's unique challenges and explore how **Agentic AI** and strategic back-office setup can foster a **secure, compliant, and innovative** operational environment.