

Bank of Baroda Hackathon 2024

Team Name : TechTreasures

BIO :

We are students at SKIT Jaipur, with experience in various tech fields. Our diverse skill sets come together to create an innovative chatbot system. By integrating different technologies, we aim to enhance user experience and provide customized interactions for better customer service.

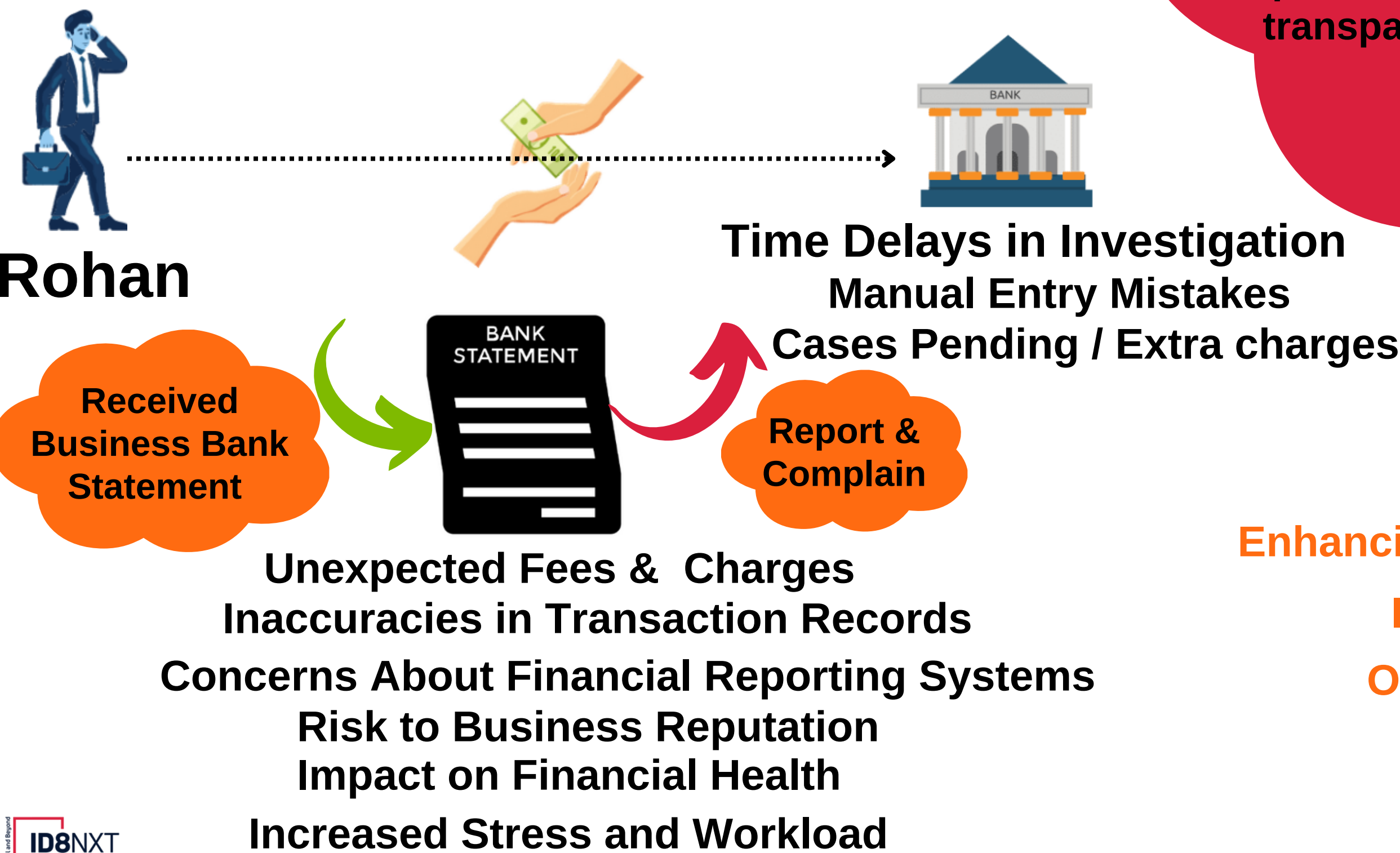
29 JUNE 2024

Problem Statement: Audit & Compliance



Rohan's experience with significant discrepancies in his business account statements highlights the urgent need for accurate financial reporting and reliable audit processes, making the "Audit & Compliance" challenge essential to ensure transparency and trust in banking.

Rohan's Audit Story



WHY ???

- Addressing Real-World Issues
- Enhancing Customer Trust and Satisfaction
- Improving Regulatory Compliance
- Operational Efficiency and Accuracy
- Proactive Risk Management

Market Competitors/ Alternatives

Manual Auditing and Compliance Teams



Used in many organizations due to the need for human oversight in compliance

Traditional Data Analytics Tools



Continues to be a staple in financial analysis and audit

ERP & RegTech Solutions



Major players like SAP, Oracle, and Microsoft Dynamics have continued to evolve, offering enhanced compliance features


RegTech remains a growing field with new solutions emerging to address regulatory compliance more effectively.




Some Banks Develops Blockchain Technology for the Compliance

Integrated into financial institutions to enhance fraud detection


Tools or resources




Azure SQL Database



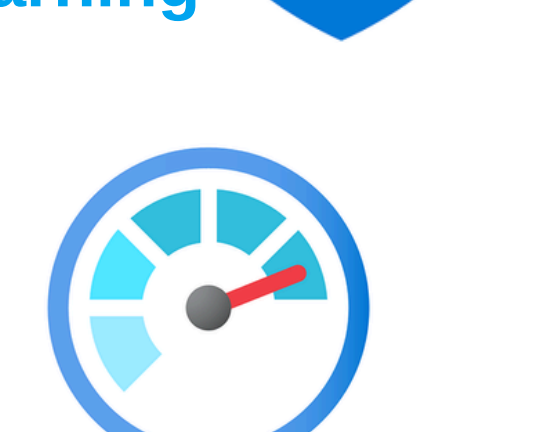
Azure Machine Learning




Azure Security



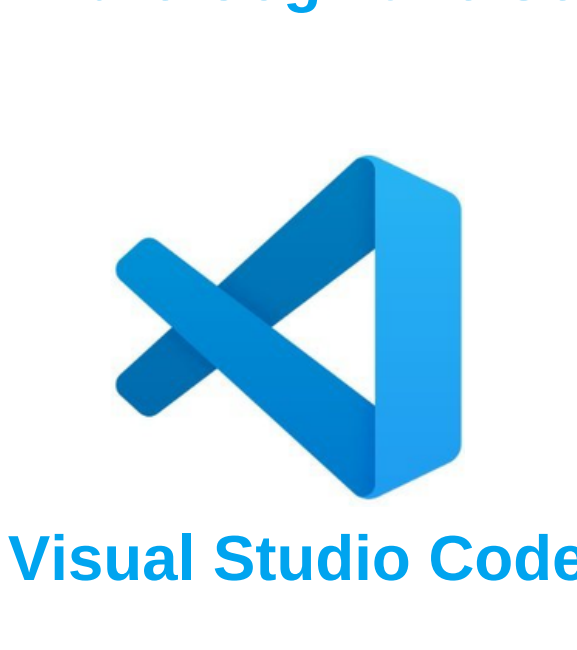
Azure Cognitive Services



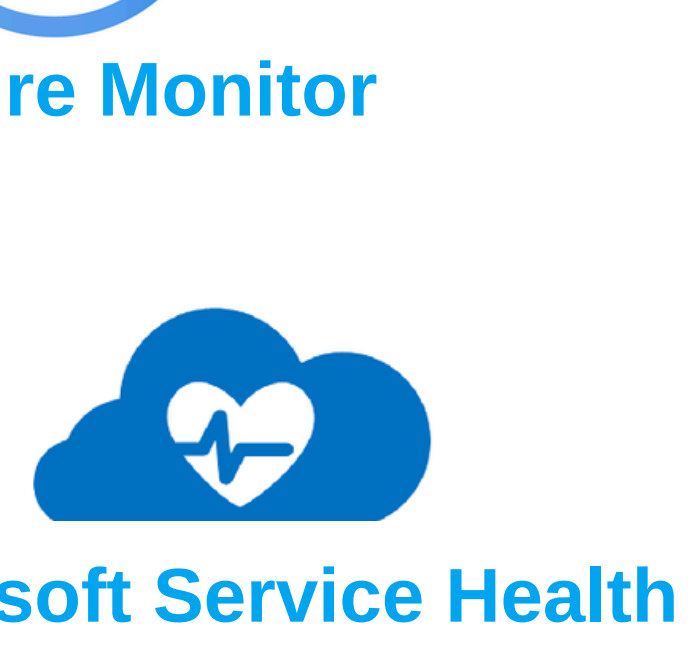
Azure Monitor




Azure




Visual Studio Code



Microsoft Service Health





Azure DevOps





Azure Active Directory

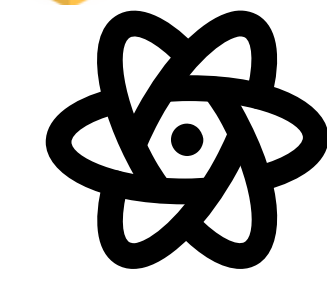
Python : TensorFlow














Java : Spring Boot JavaScript : React

SOLUTION

ComplianceAI: Comprehensive Solution for Banking Audit and Compliance



Type: Web and Mobile Application with Integrated AI Chatbot

Generative AI

Real-Time
Monitoring

User-Centric
Design

Scalability and
Flexibility

ComplianceAI Supporting Functional Documents

Documentation Link : <https://animated-kulfi-0e4d79.netlify.app/>

User Guide

**Technical
Specification
Document**

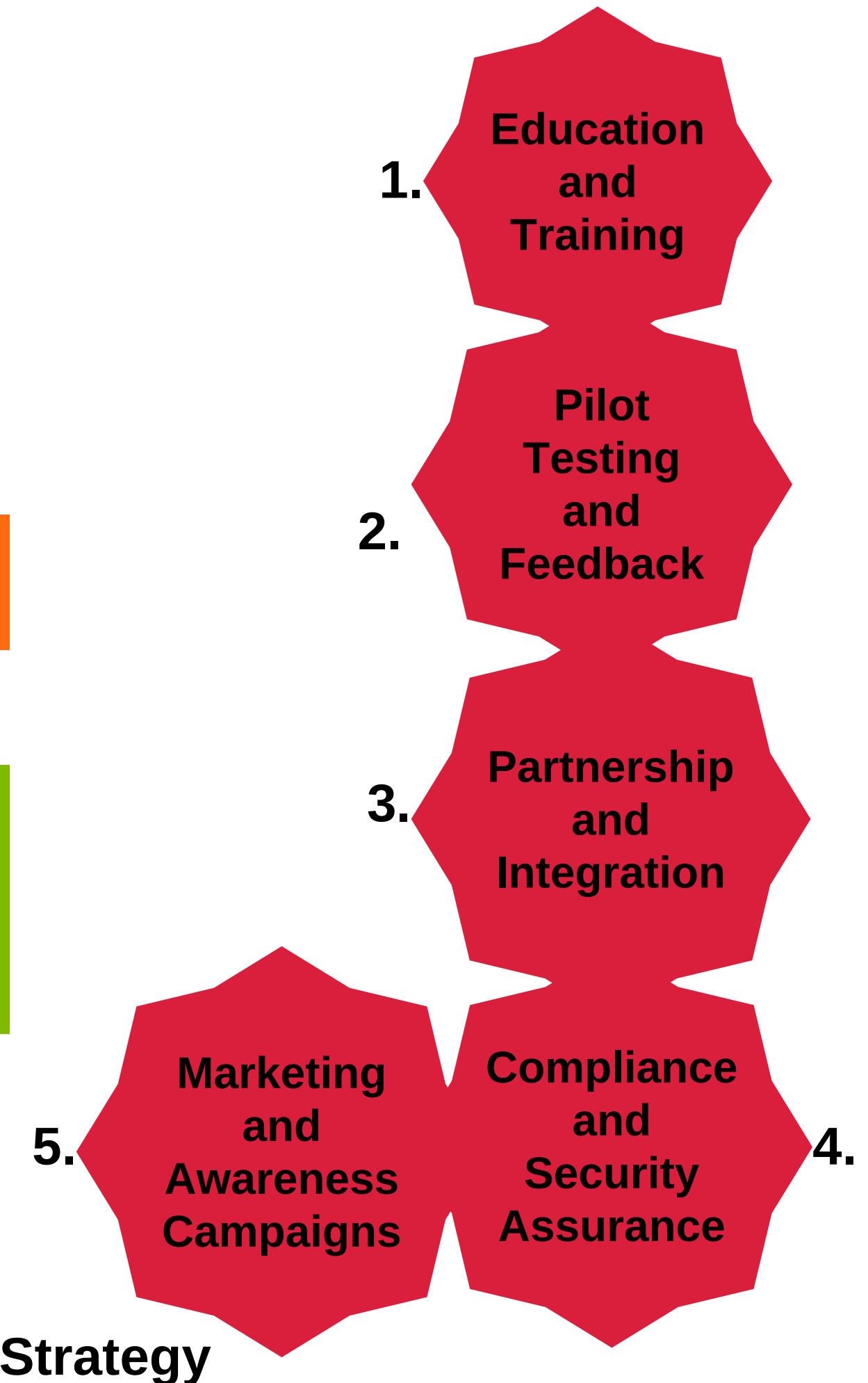
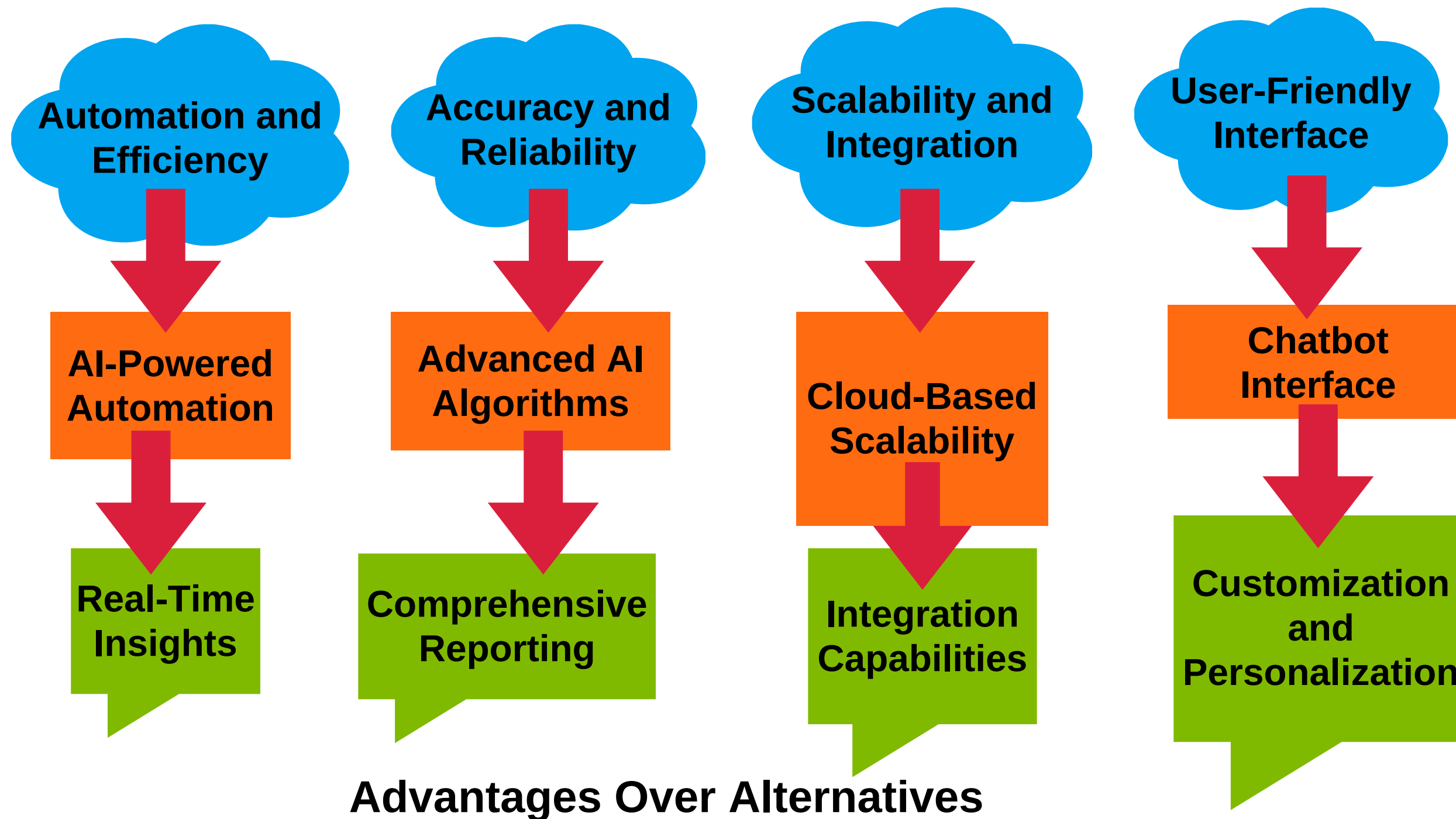
**API
Documentation**

**ComplianceAI
Integration Guide**

**Security and
Compliance
Guidelines**

**FAQs and
Troubleshooting
Guide**

Key Differentiators & Adoption Plan






REPO LINK : <https://github.com/12sachingupta/TechTreasuresXBOb-Kuber>


AI

bob

World




बैंक ऑफ़ बड़ौदा
Bank of Baroda



Become a Bank of Baroda customer

Open a bank account instantly or continue with your application

Open a digital savings account




नमस्ते उपभोक्ता

Already a customer?


Begin your mobile banking journey

Login


24 languages support



Need help?




AUDIT and Compliance BOT




बैंक ऑफ़ बड़ौदा
Bank of Baroda


Hi! I am your 24x7 banking assistant




Real-Time Auditing




Compliance Alert




Anomaly Detection




Transaction Monitoring




Report Generation



Regulation Updates





Fraud Alerts







Predictive Insights

AC/NO. 78222225








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ENG HN



बैंक ऑफ़ बड़ौदा
Bank of Baroda

Please audit my finance

Real-Time Auditing

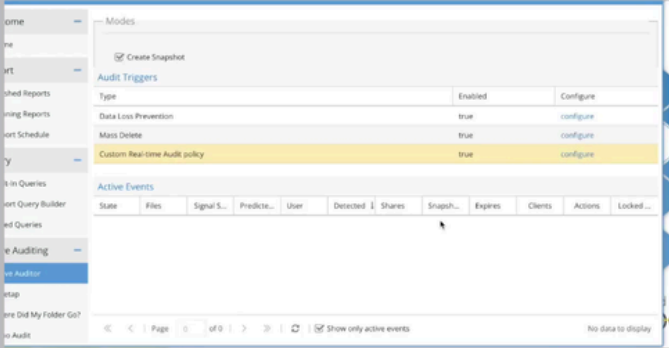
Date: June 27, 2024

Transaction ID: FEE987654321

Amount: ₹2,500

Issue: Unjustified service charge applied.

Action Taken: Fee flagged for review and pending reimbursement.



Type	Enabled	Configure
Data Loss Prevention	true	configure
Mask Delete	true	configure
Custom Real-time Audit policy	true	configure

Successfully Done !!

Transaction Discrepancies

Date: June 25, 2024


Transaction ID: TXN123456789

Amount: ₹50,000




Issue: Duplicate entry detected. Transaction recorded twice.


Action Taken: One transaction entry flagged for review and marked for reversal.




Download your Report



Reanalyze it





₹   

AI-Powered PDF Chat Service Architecture

```
graph LR
    subgraph USER_INTERFACE
        UI[Web App]
    end
    subgraph AWS_SERVICES [AWS SERVICES]
        AG[API Gateway]
        subgraph LAMBDA_FUNCTIONS [LAMBDA FUNCTIONS]
            CH[Chat Session Handler]
            FTC[Fetch Text Chunks]
            VP[Vectorize PDF]
            QVDB[Query Vector DB]
        end
    end
    subgraph OPENAI_SERVICES [OPENAI SERVICES]
        EA[Embedding API]
        CA[Chat API]
    end
    TS[Text Storage]
    VD[Vector Database]

    UI --> AG
    AG --> CH
    AG --> VP
    AG --> CA
    CH --> FTC
    FTC --> TS
    VP --> VD
    CA --> VD
```

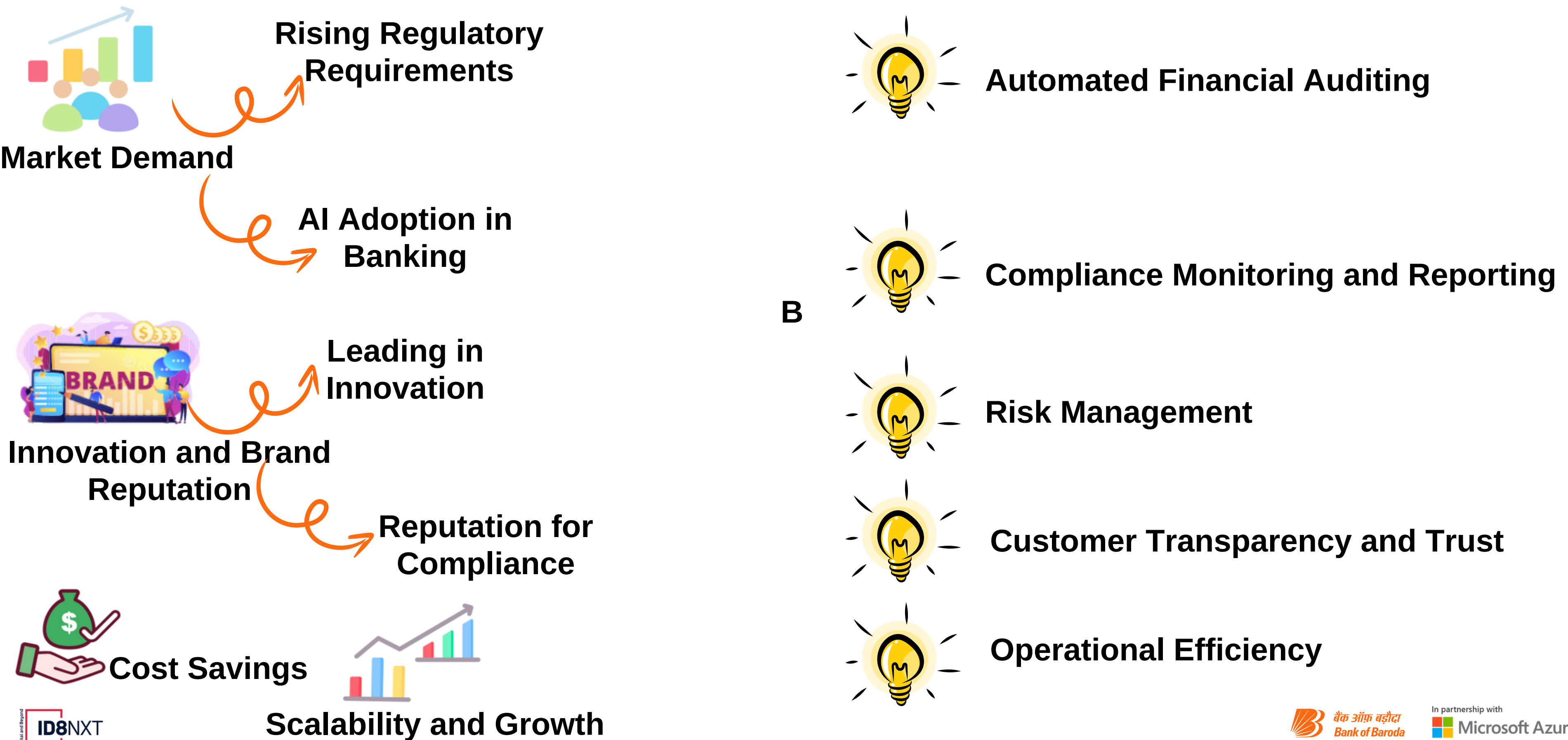
Supporting Diagram

ID8NXT

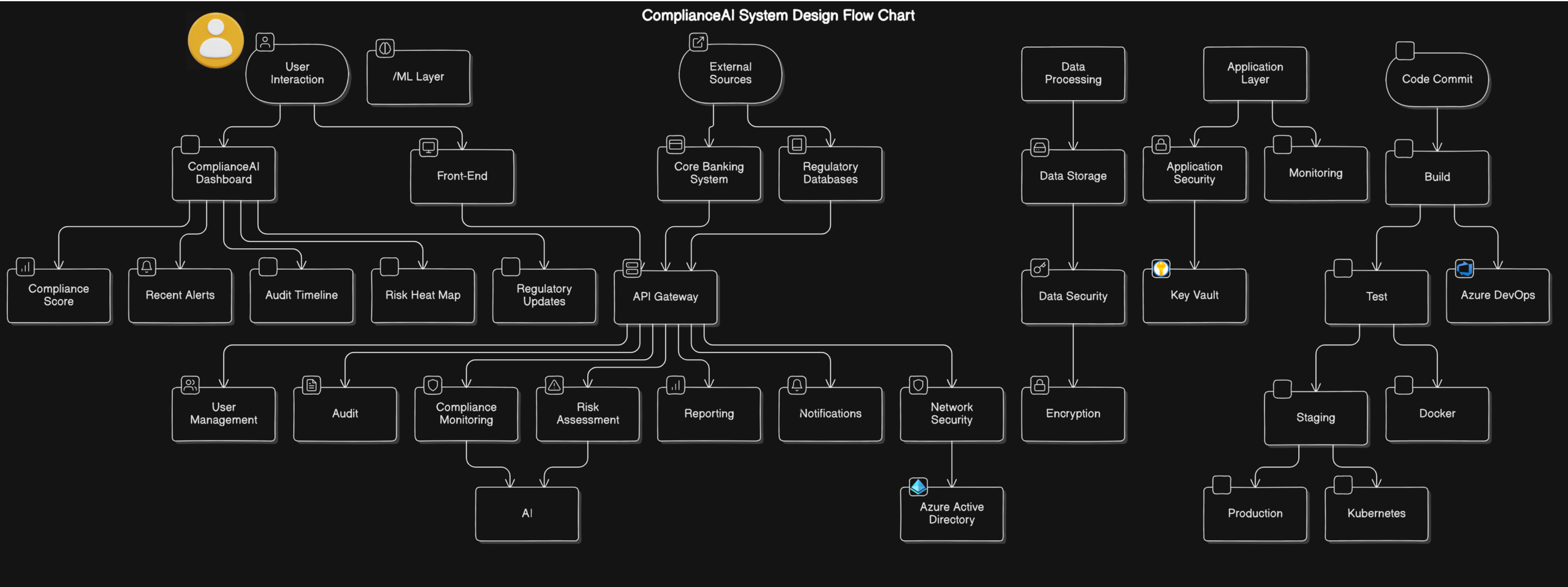
बैंक ऑफ़ बड़ौदा
Bank of Baroda

In partnership with
Microsoft Azure

Relevance & Growth

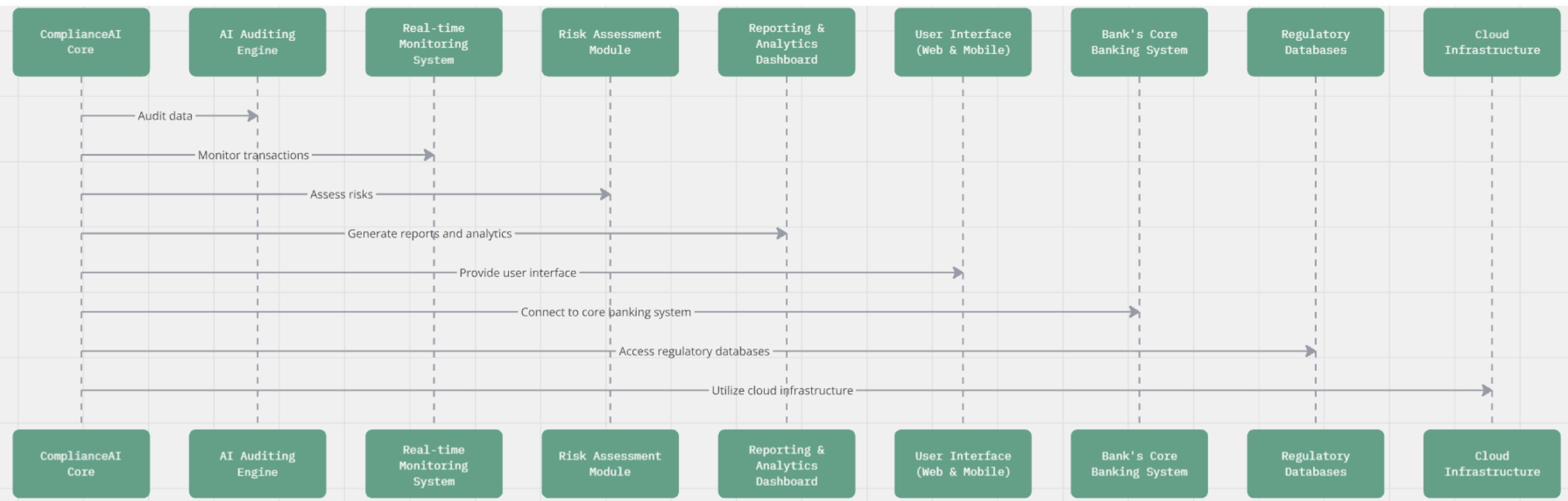


ComplianceAI System



System Design

System Architecture Diagram



Ease of Deployment and Maintenance



Deployment Simplicity



Integration Capabilities



User-Friendly Interface



Maintenance and Updates

Documentation and Support

Cloud-Based Infrastructure

Containerization

Infrastructure as Code (IaC)

API-First Design

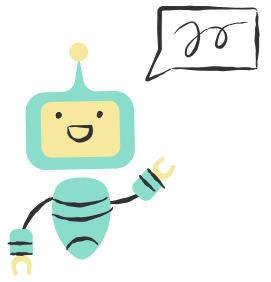
Modular Architecture

Customizable Dashboards

Support and Training

Scalable Architecture

Centralized Monitoring



Quantitative Data Points

Global RegTech Market (2024)

- Market size: \$23.4 billion
- CAGR (2021-2024): 22.5%
- Projected growth by 2028: \$45.2 billion

Compliance Costs and Savings

- Average annual compliance cost per bank: \$287 million
- Cost reduction with AI-powered solutions: 40-60%
- ROI on RegTech investments: 3.5x over 3 years

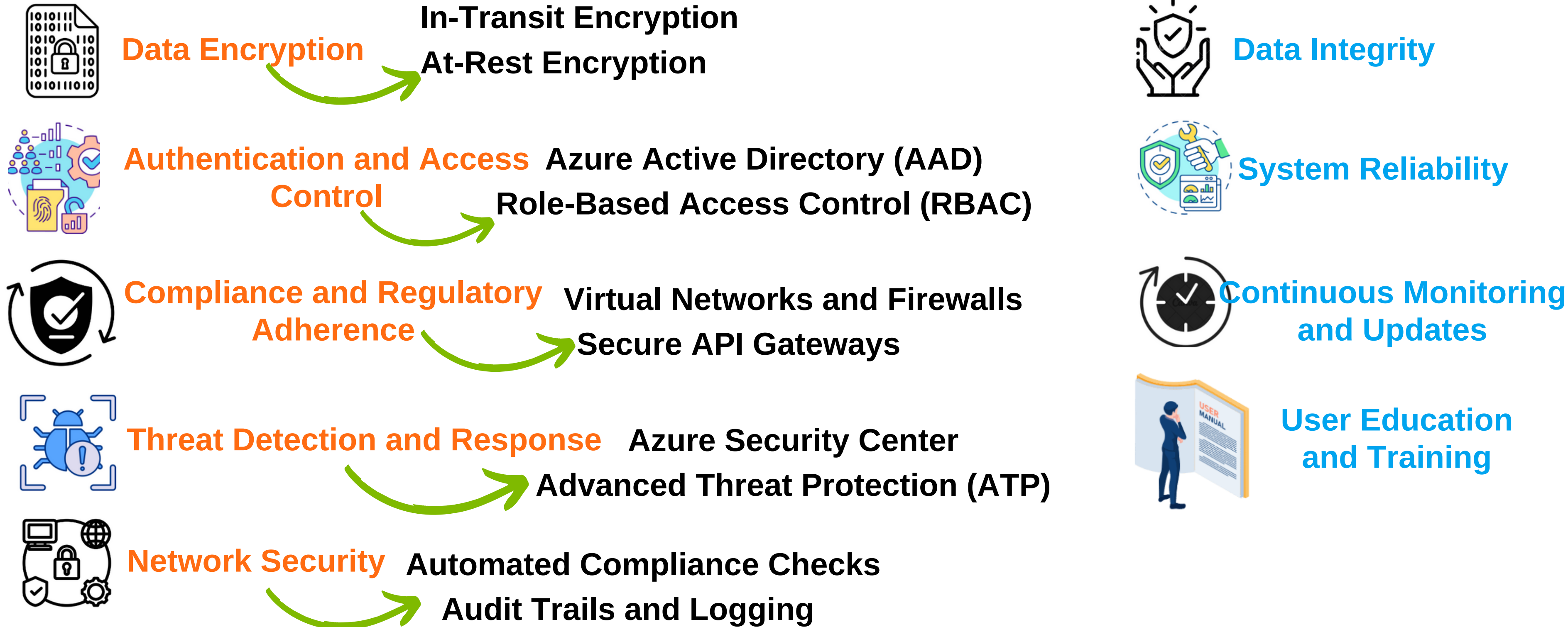
Bank of Baroda Potential Impact (Projected)

- Compliance cost savings: ₹500 crore annually
- Improvement in audit accuracy: 97%
- Reduction in customer disputes: 70%

Operational Efficiency:

- Document processing capacity: 5 million/day (AI) vs. 250/day (manual)
- Reporting time reduction: 95% (from days to minutes)
- Staff reallocation to high-value tasks: 60% of compliance team

Security Considerations



Product Roadmap: ComplianceAI

Phase 1: Foundation (Months 1-6)

- Launch core ComplianceAI platform
- Implement basic AI-powered auditing features
- Integrate with Bank of Baroda's existing systems
- Deploy real-time monitoring for key compliance indicators
- Release mobile app for basic functionalities

Phase 2: Advanced Features (Months 7-12)

- Enhance AI algorithms for predictive risk management
- Implement natural language processing for document analysis
- Develop customizable dashboards for different user roles
- Integrate blockchain for immutable audit trails
- Expand API integrations with major financial software

Phase 3: Intelligence Expansion (Months 13-18)

- Implement machine learning for adaptive compliance rules
- Develop AI-powered chatbot for customer inquiries
- Create predictive analytics for financial trend forecasting
- Integrate advanced anomaly detection systems
- Implement cross-border compliance features

Phase 4: Ecosystem Growth (Months 19-24)

- Develop marketplace for third-party compliance apps
- Implement AI-driven regulatory change management
- Create collaborative tools for multi-department auditing
- Develop advanced simulation tools for stress testing
- Implement quantum-resistant encryption methods



Thank You

Sagar Agrawal Backend Developer/ UI / UX
Khushi Rathi Frontend Developer / Cloud Architecture
Sachin Singhal AI / NLP Desginer

