SBI

FINNOVATION: Transforming Banking Through Innovation

Broader Implications: Reshaping Banking Innovation Culture

The FINNOVATION hackathon exemplifies a systematic transformation in banking innovation beyond a single competition. The broader PSB Hackathon Series 2025 encompasses all 12 public sector banks partnering with premier educational institutions across India, with SBI and IIT Guwahati's MoU creating a national innovation ecosystem linking academic research to practical banking challenges.

These hackathons establish clear pathways between established financial institutions and emerging tech talent, building sustainable innovation pipelines. The systematic annual competitions with rotating problem statements ensure continuous engagement with evolving banking challenges, creating sustained relationships that enable multi-year project development rather than one-time events.

Overview of the problem statement and its relevance to banking/FinTech

Understanding the Challenge: Why Loan Recovery Matters

The banking sector faces a persistent challenge that costs billions annually: loan defaulters who vanish into thin air. The problem statement for FINNOVATION 2025 given to SBI - **"Detecting Loan Defaulters and Tracking Them in the Digital Ecosystem"** - addresses one of the most pressing issues plaguing financial institutions today.

Consider the stark reality: when borrowers stop repaying loans, banks lose more than just money. The ripple effect touches every aspect of the financial system. Traditional credit assessment methods often fail to identify early warning signs, leaving banks scrambling to recover funds after the damage is done. *What makes this particularly challenging in today's digital age is how easily unscrupulous borrowers can avail credit facilities, particularly smaller ones, and then disappear.*

The three critical pain points banks encounter paint a sobering picture. **First,** SMA-2 accounts - those special mention accounts where payments are overdue by 61-90 days - often serve as silent harbingers of future non-performing assets. These accounts appear normal on the surface but harbour significant risk beneath. **Second,** the speed at which defaulters become untraceable is alarming; statistics show that over 60% vanish without a trace within just three months of default. **Third,** this creates a cascade of missed intervention opportunities, where banks lose crucial windows to either help struggling borrowers or initiate early recovery processes.

Description of the solution developed by the team

The Pathfinder Solution: Innovation Meets Practicality: Team Pathfinders approached this complex challenge with a philosophy that resonated throughout their solution development: **"In a world of imperfect data, true innovation lies in creating clarity from chaos."** Their comprehensive solution represents a paradigm shift from traditional reactive recovery methods to proactive detection and tracking mechanisms.

The solution architecture centres on a dual-task approach that addresses both prediction and localisation challenges simultaneously. Rather than relying on single-point solutions, *the team developed an ensemble system that combines multiple analytical approaches, much like having several expert investigators working different angles of the same case.*

The prediction component employs advanced machine learning techniques to identify potential defaulters before they default. The system analyses behavioural patterns, transaction histories, credit utilisation trends, and various financial indicators to create comprehensive risk profiles. What sets this apart from conventional credit scoring is its ability to process alternative data sources and identify subtle patterns that traditional systems miss.

The tracking component represents perhaps the most innovative aspect of the solution. The **FINDMARK location tracking system** achieves remarkable precision - 90% accuracy within a 10-meter radius when the user's location is left on a social media platform.

Social media intelligence forms another crucial pillar of the solution. The system analyses publicly available social media content from platforms like LinkedIn and Twitter to gauge financial stress indicators. Using advanced natural language processing techniques, including FinBERT and VADER sentiment analysis, *it can detect early signs of financial distress, job loss concerns, or debt-related anxiety expressed through social media posts.* The solution maintains strict ethical boundaries throughout its operation. Data collection follows principles of minimization, transparency, and purpose limitation.

Highlights of the team's journey through the hackathon process

The Journey of Innovation: From Concept to Reality

The 90-day development journey undertaken by Team Pathfinders exemplifies the intensive nature of modern hackathon competitions. The six-member team transformed initial concepts into a production-ready solution through relentless iteration and refinement.

The development process resembled a marathon rather than a sprint. Initial phases focused on understanding the problem depth and exploring various technological approaches. *The team experimented with different machine learning algorithms, tested various data integration methods, and continuously refined their approach based on performance metrics and practical implementation considerations.*

The competitive environment at IIT Guwahati, with over 100+ participating teams, fostered innovation through healthy competition. Teams regularly presented progress updates, received feedback from industry mentors, and refined their solutions based on real-world banking requirements. The iterative presentation process helped teams understand not just technical excellence but also practical implementation challenges.

The victory was achieved by showcasing both technical sophistication and practical applicability. The judging panel, which included banking executives and technology experts—comprising both internal and external industry jurors—evaluated the solutions based on scalability, accuracy, ethical considerations, and the potential for real-world implementation. This thorough assessment allowed them to distinguish their solution from those of competitors.

Role of the bank in mentoring and supporting the team

Industry Mentorship: Bridging Academia and Practice

The mentorship component of FINNOVATION 2025 represented a carefully orchestrated knowledge transfer between seasoned banking professionals and emerging technology talent. State Bank of India's team, provided comprehensive guidance that extended far beyond technical consultation.

Scale considerations formed a central theme in mentorship discussions. Any proposed solution needs robust architecture capable of handling such traffic without performance degradation. Mentors emphasized that academic proof-of-concepts often underestimate real-world scalability challenges.

Regulatory compliance guidance proved equally crucial. Banking operates within strict regulatory frameworks, and solutions must satisfy audit requirements, data protection regulations, and operational risk management standards. *Mentors helped teams understand how innovative approaches could align with existing compliance structures without compromising regulatory adherence. The mentorship extended into business viability assessment. Industry experts evaluated solutions not merely as technical achievements but as potential business implementations.*

This perspective helped teams understand market dynamics, customer acceptance factors, and commercial sustainability considerations that academic environments rarely address.

Learnings, or future plans for implementation

Outcomes and Future Directions: From Prototype to Implementation

The immediate recognition received by Team Pathfinders extended beyond monetary rewards to encompass significant career advancement opportunities. *The ₹5 lakh prize represented just the beginning of their recognition journey. Selection for presentation at the Global FinTech Fest provided international exposure to one of the world's premier financial technology conferences, where their solution would be evaluated alongside innovations from established fintech companies and major financial institutions.*