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## 'Project Cyclops': L&T Finance's Innovative Approach to Credit Underwriting

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The financial services industry is undergoing a seismic shift, driven by the power of artificial intelligence (AI) and data analytics. For non-banking financial companies (NBFCs), this shift isn't just about efficiency—it's about survival, whereas traditional credit scoring methods sometimes feel like reading tea leaves – a bit of guesswork mixed with some established metrics.

L&T Finance is taking a different approach, harnessing the power of AI to gain a more comprehensive understanding of borrowers. We interviewed Dr. Debarag Banerjee, their Chief AI & Data Officer, to explore how they're moving beyond the tea leaves and into the age of data-driven lending. By leveraging vast datasets, advanced algorithms, and real-time analytics, they are not just improving loan approval rates but also driving financial inclusion across India.

### Excerpts:

As the Chief AI & Data Officer at L&T Finance, how do you see the role of artificial intelligence and data analytics evolving in transforming the lending landscape, especially in terms of credit risk assessment, customer personalization, and financial inclusion?

At L&T Finance (LTF), we view artificial intelligence (AI) and data analytics as transformative forces in the lending landscape. Leveraging AI and machine learning, we are expanding financial services to traditionally underserved populations. By analyzing non-traditional data points, we can create inclusive credit assessments, enabling individuals and small businesses to access essential financing.

This vision was showcased at our flagship event, RAISE' 24, held in November 2024, which brought together industry leaders to explore AI's potential. We introduced several in-house innovations like *Project Cyclops*, the *Lifestyle Index Calculator*, and *Knowledgeable AI (KAI)*.

Additionally, we launched the *Pearl Anniversary Challenge*, an analytics competition aimed at predicting farmer income in India.

In an NBFC context, AI supports every stage of the customer journey—from prospecting and onboarding to risk assessment and engagement. For marketing, AI-driven analytics power targeted campaigns, enhancing effectiveness and building relationships even before customers formally engage with us. Through AI, we segment consumers efficiently, crafting personalized offers based on behavior and preferences to meet unique financial needs.

In underwriting, *Project Cyclops* uses diverse official data sources—credit bureau reports, banking data, expense behaviors, geographical signals, and satellite imagery—to generate comprehensive risk assessments, with explicit customer consent. Post-onboarding, we employ behavioral scorecards and pre-delinquency management to predict loan defaults and identify clients eligible for top-ups or repeat loans.

For collections, machine learning models predict EMI payment behaviors, helping us anticipate potential defaults. Our GenAI initiative, *KAI*, is a multilingual chatbot powered by Large Language Models (LLMs) and Retrieval Augmented Generation (RAG). It assists potential borrowers with home loan queries, offering both product-specific advice and general guidance. Its user-friendly interface supports English, Hindi, and Hinglish, ensuring personalized customer support.

Thanks to analytics-driven insights, we've improved our credit offerings significantly. For instance, *Project Cyclops* has boosted our *New to Credit (NTC)* underwriting by 34% compared to non-Cyclops methods—a major step toward financial inclusion, especially for first-time borrowers like two-wheeler owners.

Could you elaborate on the genesis of *Project Cyclops* and the inspiration behind developing a three-dimensional credit risk assessment engine?

While traditional lenders rely heavily on bureau data, we identified an opportunity to incorporate alternate data points, such as Digital and banking footprints, and banking transactions. This inspired the creation of *Project Cyclops*, an integrated credit engine developed over 4-6 months.

We call it a "three-dimensional credit engine" because it evaluates:

1. **Bureau Data:** Provides historical credit behavior.
2. **Liabilities Data:** Offers insights into liquidity via account aggregators.
3. **Trust Signals:** Statistically validated data from payment gateways, geolocation intelligence, etc., reflecting income and consumption patterns.

For customers with robust credit histories, bureau data suffices. However, for those with limited or no credit history, '*Project Cyclops*' relies heavily on 'trust signals' to identify any relevant data.

How does *Project Cyclops* stand apart from other credit risk assessment tools in the market?

*Project Cyclops* is a proprietary, AI-ML-based credit engine that offers deep customer insights by analyzing bureau data, account aggregators, and alternate trust signals. This triad approach gives us a nuanced understanding of potential borrowers, enabling more accurate credit underwriting and superior portfolio quality.

The ensemble scorecards we develop are based on historical credit performance across multiple data axes. Since its launch for two-wheeler loans in June, *Project Cyclops* has significantly reduced delinquencies and improved efficiency. In December, we extended *Project Cyclops* to Farmer Finance, incorporating unique data points like soil type, reservoir levels, and satellite imagery.

What are the key benefits of designing the engine as an omni-product platform with low latency?

*Project Cyclops* is designed with flexibility, supporting diverse products like Two-wheelers, Farm Equipment Finance, and Personal Loans.

Its segment-level architecture allows seamless integration with multiple account aggregators, ensuring consistency in credit policies across product lines. Instead of its segment-level architecture allows seamless integration with multiple data aggregators, ensuring consistency in credit policies across product lines.

Low latency enhances operational efficiency, allowing real-time decision-making. The system's iterative learning capabilities enable quick adjustments based on real-time data, ensuring agility and responsiveness to market dynamics.

How is AI being used to enhance customer experience and engagement in your organization?

Our AI-enabled assistant, *KAI*, currently focuses on home loans but will soon expand to other lending services, offering a unified, seamless customer engagement experience. As early adopters of LLMs in the BFSI sector, we aim to elevate customer interactions through personalized, AI-driven support.

Additionally, we are deploying AI-powered predictive analytics within our marketing automation strategy. By analyzing historical data, we can predict consumer behavior, enabling proactive engagement and higher conversion rates.

What emerging AI technologies or trends are you most excited about, and how do you think they will shape the future of the NBFC industry?

We are excited about the potential of **Agentic AI**, which involves developing specialized AI agents for expert tasks. These collaborative bots will resolve complex customer queries effectively.

Another promising trend is the rise of **Messaging and Voice AI Bots**, enhancing customer interactions through speech and asynchronous messaging platforms.

Lastly, **Small Language Models (SLMs)** are gaining traction. Unlike larger models, SLMs are optimized for specific applications, making them highly effective for niche use cases within the NBFC sector.

## ‘Project Cyclops’: L&T Finance’s Innovative Approach to Credit Underwriting

Dr. Debarag Banerjee, Chief AI & Data Officer at L&T Finance, discusses how AI and data analytics are transforming lending, improving credit risk assessment, personalizing customer experiences, and driving financial inclusion.



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