



BIG DATA IN RISK MANAGEMENT IN BANKING

Big data is changing risk management from backward looking function into real-time. By using big data multiple transactions are monitored, and fraud detection is reduced to 50%. Although risks remained but the benefits are valuable such as faster detection and greater predictive accuracy

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Introduction

Big data is a control function in banks and identify risks and mitigate risks. Big data enables real time monitoring of large datasets in milliseconds. processing of data has been increased from months to milliseconds and frauds are detected ultimately. But this advantage is not without challenges. data silos, privacy regulations and a persistent talent gap between risk officers and data scientists pose significant challenges.

Technology Overview

Banking risk management is not controlled by magic. It is controlled by data technologies. **Data lake** (AWS S3 and Azure Data Lake) that stores raw, unstructured data. At bottoms **Stream Processing** lies which ingest and process millions of events in seconds and fraud detection is checked before customer leaves the counter. Frameworks like **Spark** and **Hadoop** calculate the massive risks of server.

Key Findings & Impact

Big data enables real time monitoring, detection, prediction using alternative data, Machine learning models and graph analytics which was not possible with traditional periodic models.

IMPACTS:

- Reduced fraud false positive by 50%
- Investigation takes hours than days
- Prediction of loan default months
- Improved regulatory compliance

What's Next?

Real time risks limit: Automatically limits risks from second to second according to live data. It lowers the losses and more capital use.

Embedded Supervision: Regulators connect directly to bank data systems including transactions and data models. It enables continuous monitoring instead of periodic examinations.

AI stress testing: AI generates risks that does not occur before scenarios which prepare banks for unknown risks.



About the Author

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