Time to usher in next-gen credit monitoring set-up

Banks need modern early warning systems that leverage Big Data and better predictive models

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Regulatory suasion, technological advances mean it's time for advanced, forward-looking EWS

Credit monitoring infrastructure at banks has not kept pace with tightening regulatory requirements. Regulators increasingly expect banks to take a more proactive approach towards monitoring credit risk, including focusing on forward looking data and deploying a broader set of indicators in their early warning systems.

With the shift in interest rate cycle and regulators becoming more stringent when evaluating credit monitoring set-ups at banks, existing monitoring systems will require an overhaul to be in sync with regulatory expectations.

The European Banking Authority (EBA) guidelines on loan origination and monitoring[1] call for regular evaluation of relevant quantitative and qualitative early warning indicators, supported by an appropriate information technology and data infrastructure. This has now been backed by the Prudential Regulation Authority's (PRA) 2023 supervisory priorities[2], where it stated the need to evaluate EWS frameworks at banks "given many credit risk metrics are backward looking". Leveraging forward-looking data and computing power has rarely been so clearly emphasised.

To a large extent, traditional early warning systems (EWS) fall short of such expectations, with the key constraint being reliance on limited datapoints — many of which have infrequent update cadence and are often backward-looking. For instance, financials are released only once in a quarter and ratings downgrades are also infrequent.

With the emergence of Big Data, expansion of computing power, advanced artificial intelligence/machine learning (AI/ML)-based algorithms, credit cycle shifts, and regulatory push, the ground is ripe for the next generation of EWS. Importantly, such systems can also identify second- and third-order risks since AI/ML algorithms can explore and establish inter-company and variable dependencies and relationships. This also ties in well with the larger credit risk transformation agenda at banks.

Construct of a modern EWS: Better predictive power by leveraging Big Data

We expect firms to evolve from a traditional passive system to a modern dynamic credit risk monitoring approach (*see Table 1*). This would mean a shift towards a systematic data driven approach with additional and forward-looking data, reduction in false positives through more evolved model-based triggers and continuous learning, and empathetic and contemporary UI/UX integrated with credit risk workflow.

Modern EWS design is considerably more powerful and feature-rich compared with a traditional system

Traditional EWS	Modern EWS
Backward-looking, leading to late warnings, when impact on numbers is already visible	Have considerable predictive power, supported by advanced algorithms
Mostly restricted to directly linked risks	Can identify second- and third-order risks
Limited ability to evolve and build more intelligence	Learning capability, supporting continual evolution of predictive models
Primarily works on quantitative inputs	Able to process qualitative and unstructured data
Relies on a few data points	Considers multiple variables to identify red flags
Works reasonably well with large public companies but struggles with private companies	Able to provide signals for private companies
Limited automation and integration into the credit workflow	Integration into the credit workflow allows easier escalation, follow-up, and monitoring
Lacks the ability to analyse news independently	Can assess news sentiment using Natural Language Processing and augmented intelligence

Source: CRISIL

[1] https://www.eba.europa.eu/regulation-and-policy/credit-risk/guidelines-on-loan-origination-and-monitoring
[2] https://www.bankofengland.co.uk/-/media/boe/files/prudential-regulation/letter/2023/uk-deposit-takers-2023-priorities.pdf

Systematic data-driven approach with the inclusion of forward-looking data

A hallmark of a modern EWS in terms of data points is that instead of lagging, backward-looking data feeds, it relies on more dynamic, frequently updated variables that serve as leading indicators.

The modern EWS would look beyond traditional financial and industry data, and leverage other data such as news sentiment, ESG related metrics, alternate data such as website traffic and Google Trends data, and enhanced market metrics. Such data points, when combined with internal bank data such as utilisation of credit lines, days past due, and margin call delays, enhance the efficacy of EWS, especially for small and medium counterparties.

One constraint of traditional EWS is its limited efficacy in monitoring private companies. Since traditional systems rely mostly on share prices and ratings, there is a notable lack of sufficient triggers in the case of private entities. The next generation of EWS can cross this hurdle by establishing linkages between listed and private entities.

Reduction in false positives through model-based triggers and continuous learning

In terms of models, the modern EWS can leverage the above expanded set of variables to identify red flags, both through predictive models and enhanced rules-based approaches reflecting deep understanding of industry drivers and KPIs. Further, EWS systems might tend to lean on the side of caution initially and generate a high number of false positives — that is, more red flags than necessary. A modern EWS tackles this challenge by leveraging data and using back-tested predictive models based on contemporary algorithms. And continuous model management and governance through a supervisory learning process run by credit specialists can help fine-tune models.

Contemporary and workflow integrated UI/UX

The modern EWS also necessitates a movement away from legacy applications and monitoring through offline means such as MS Excel. It needs to be powered by an intuitive user interface/ user experience (UI/UX), which would serve as a front-end platform to consume analytics, insights and charts using the data and models. The interface would allow credit officers to monitor portfolios in real-time and take immediate action within the application itself.

Regulatory mandate aside, banks with robust EWS have competitive edge

Regulatory requirements aside, banks with good credit-monitoring practices are proven to have higher risk-bearing capacity, offer better pricing, and generate higher returns on equity compared with peers.

A McKinsey & Co study said improving the effectiveness of monitoring reduces loan-loss provisions by 10-20% and risk-weighted assets and regulatory capital by up to 10%. Such banks reduce unsecured exposures for customers on the watch list by about 60% within nine months, whereas average banks achieve only around 20% reductions.

Conclusion: A natural evolution to a data- and systems-driven approach

It is important to note that since contemporary EWS are built on top of traditional models, they would also utilise conventional data points such as share prices and rating changes.

Key differentiating features, however, are their ability to tap into a much wider range of data sources, usage of AI/ML and predictive models, ability to utilise qualitative data, multiple and more relevant triggers based on deep credit expertise, and integration into the credit workflow — thereby offering the best of both worlds.

Such modern and scalable systems will enable banks to not only take timely risk-mitigation initiatives and satisfy regulatory scrutiny, but also create a wider bandwidth for credit officers and reduce human errors.

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