

# Banking on GenAI for credit reports



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Generative artificial intelligence (GenAI) is disrupting business-as-usual worldwide. Companies across industries are finding ways to adapt to the new normal as large language models (LLMs) upend traditional processes. Consequently, both the supply and demand sides of the AI world are finding new and higher equilibria every day.

We delve into the benefits and drawbacks of GenAI, focusing on applications used by credit institutions. Long reliant on data-driven decision-making, the financial services sector is now rapidly embracing GenAI.

## Spending on GenAI forecast to reach \$202 billion by 2028

According to International Data Corporation (IDC)<sup>1</sup>, worldwide spending on AI, which includes investments in AI-driven applications, infrastructure, and related information technology (IT) and business services, is expected to exceed \$632 billion by 2028. This represents a doubling from current investment levels.

The swift integration of AI, especially GenAI, across products should drive spending at a compound annual growth rate (CAGR) of 29.0% between 2024 and 2028. The financial services sector, led by banking, is expected to contribute over 20% to total AI spending.

Investments in GenAI are increasing rapidly and will outpace overall growth of the AI market, with a five-year CAGR of 59.2%. At the end of the forecast period, IDC predicts GenAI spending would hit \$202 billion, accounting for 32% of total AI expenditure.

## GenAI in credit assessments, a relatively uncharted territory

Credit assessments are the cornerstone of credit decision-making, and GenAI has the potential to radically overhaul traditional practices.

Typical credit assessments involve manual processes, such as reviewing and analysing financial statements (e.g., annual reports, quarterly reports, presentations, press releases and transcripts), credit reports and other relevant data.

A common application of AI in the credit space is extracting large datasets from documents and analysing them.

Additionally, GenAI can be leveraged to draft credit assessment reports. This requires carefully designed solutions. While many banks are investing in this area, most are still in the early stages of development because cracking the design code is a complex and time-consuming process.

According to our market intelligence, numerous financial institutions are still exploring GenAI capabilities to bring in process efficiencies and are undertaking pilot projects.

## So, how does the ideal solution look like?

Credit report writing using GenAI is a relatively new use case, requiring specialists from three domains — credit risk, data science and technology — to collaborate and solve a complex problem.

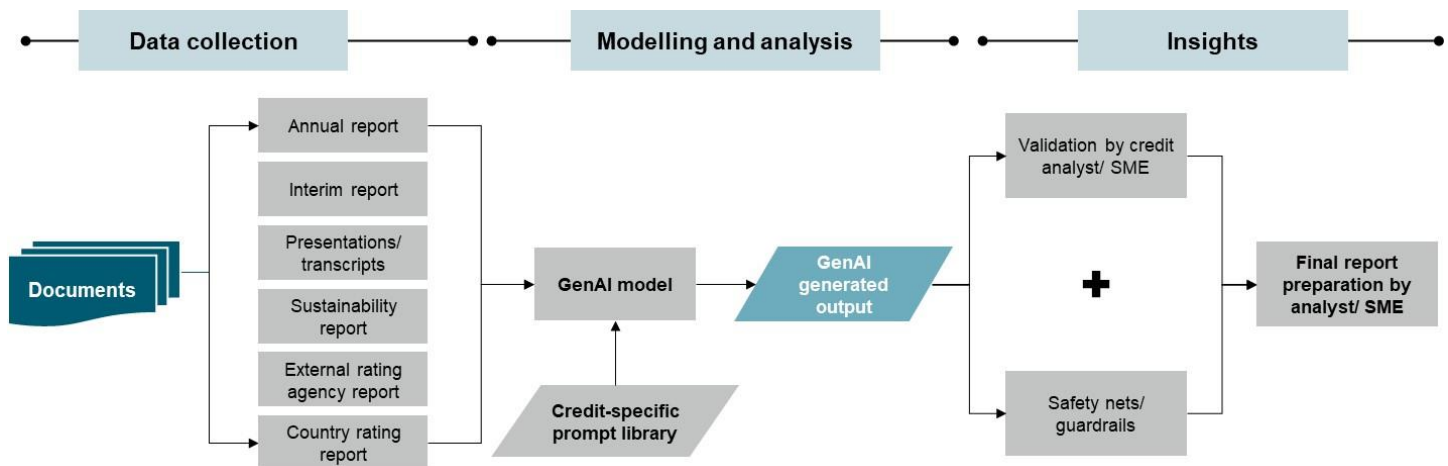
A solution should focus on leveraging the core strength of LLMs — writing good English.

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<sup>1</sup> IDC report

At the input layer, relevant documents are ingested in the GenAI model along with a carefully crafted prompt library.

The output is a credit memo with confidence levels marked on various sections. It undergoes rigorous validation through built-in safety checks, followed by an additional layer of scrutiny by a credit analyst or subject matter expert (SME) to ensure accuracy and reliability before finalisation.



Source: Crisil insights

## Why is this solution complex?

**Lack of real-time fact-checking:** A key constraint of GenAI models is their inability to access real-time information about obligors, such as recent mergers and acquisitions, or verify the accuracy of the content they generate. This limitation stems from their reliance on training data that only goes up to a certain point in time. Today, there are techniques to input the latest information into these models, so they can generate more accurate and informed output. Further, developers are designing applications that can conduct web searches to fact-check and validate information.

**Unpredictable consequences:** A significant risk associated with GenAI is its potential to generate uncontrolled and inaccurate responses. It may, for instance, mistakenly provide production details of subsidiaries instead of the parent company, or extract incorrect leverage ratios, resulting in unfavourable outcomes. These hallucinations, which are perceived patterns in data that do not exist, can affect the credit assessment of borrowers. To reduce the chances of this, strong guardrails are essential.

**Information loss:** The output generated by GenAI may lack important details, nuances, or context present in the original input data. This happens when the model's simplification and generalisation mechanisms discard or distort crucial information. As a result, the output may seem plausible at first but fails to capture the full complexity of the original data. Information loss can manifest in various ways — for instance, by omission of huge contingent liabilities when assessing risk. This can impact the counterparty's credit analysis. Safety nets are necessary to catch the information lost during production.

**Prohibitive expenses:** Building and maintaining AI infrastructure, particularly when developing proprietary LLMs, can be a costly affair. The expenses involved are substantial, including costs of graphics-processing units used in computing clusters and racks, high-performance graphics-processing chips, and resources required for training and maintaining datasets.

**Navigating the regulatory landscape:** As adoption of GenAI grows, institutions must adapt to the changing regulatory environments to avoid copyright infringement and use of unauthorised content in training data. We will discuss the regulatory aspect in more detail in an upcoming blog post.

## With so many complexities, how can output become reliable?

Measures are implemented to mitigate the challenges posed by the complexities mentioned in the previous section and improve confidence in the solution.

**Guardrails:** These refer to a set of controls, safeguards and guidelines put in place to ensure models operate in predetermined boundaries, preventing them from generating biased or unethical content. Carefully curated data, bias detection, optimisation of retrieval/filtering algorithms, and regular review and updating of guardrails based on the latest research and stakeholder feedback are essential steps to maintain the integrity and security of GenAI models.

**Prompt engineering:** Designing precise prompts is the key to guiding models towards responses that meet specific domain requirements. Using techniques such as directional stimulus and few-shot prompting, output can be tailored to user needs. The iterative process of refining these prompts is crucial to the accuracy and reliability of the extracted data. We will delve deeper into the art of prompt refinement in an upcoming blog post.

**Safety nets to reduce information loss:** Creating parallel workflows and autonomous controls can limit inadvertent loss of important information by the model. Web-scraping and news analysis can further reduce information loss in the data extraction process. We will delve deeper into those aspects in an upcoming blog post.

**Agentic solutions:** Agentic systems are systems designed to be autonomous, capable of performing tasks, making decisions and interacting with their environments without direct human intervention. By pooling individual strengths, these systems can tackle intricate tasks and adapt to rapidly changing environments. By dividing tasks among agents, such solutions improve performance, increase capacity and boost reliability.

**Model governance:** To prevent drift or bias, it is necessary to establish governance mechanisms to regularly assess model performance. By taking these steps, financial institutions can address the challenges of LLMs in financial intelligence and ensure safe and reliable use of these models.

**Human in the loop (HITL):** To maintain accuracy that is comparable to the traditional methods, incorporating an HITL role in an oversight capacity will help in achieving a satisfactory outcome. SMEs should manually review credit memos generated by AI/LLMs to ensure their validity and accuracy and prevent issues such as hallucinations. Additionally, HITL will be necessary for training the models and ensuring their successful deployment. Even as technology advances, employees will play a crucial role in ensuring the output's accuracy, precision and compliance.

In summary, the design must aim to minimise hallucinations, prevent information loss and reduce information distortion. Current GenAI techniques are not effective by default and must be tailored to bring in credit-specific analytical nuances.

Strong guardrails are essential to ensure a GenAI model produces intended outcomes. Additionally, techniques must be developed to identify and incorporate domain-specific context and metrics for companies, enabling a model to generate relevant content for diverse industries such as healthcare and oil and gas.

A mix of deterministic and GenAI algorithms can help optimise the outcome, thereby replicating the credit review processes.

Even after solving these nuances, a realistic solution is not autonomous and requires significant HITL interventions.

Ultimately, a well-designed solution should enhance quality, reduce human effort and, thereby, increase productivity, all while complying with existing regulations and adapting to evolving regulatory requirements.

## Conclusion

With GenAI poised to play a transformative role, the financial sector is at the cusp of a revolution. GenAI will become an indispensable tool for financial institutions seeking to remain competitive and improve operational efficiency.

With its ability to generate human-like text and images, GenAI will unlock new possibilities to automate labour-intensive tasks and analyse vast amounts of data.

However, the successful adoption of GenAI will require careful consideration of several factors. One of the most significant challenges is the high cost of developing and maintaining GenAI models.

To overcome this hurdle, financial institutions can explore partnerships with market players that possess technical expertise in GenAI and deep subject-matter knowledge of credit analysis.

This will enable institutions to leverage the expertise of specialised firms, reducing the financial burden of developing in-house GenAI capabilities, while still reaping the benefits of this transformational technology.

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