

Transforming
the collections
experience through
machine learning



CGI

Organizations across sectors are focused on harnessing data to improve the customer experience. Access to customer data has exponentially increased in the last decade, and traditional data analytic processes can't keep pace with the speed at which this data can be processed, analyzed and used to generate insights.

Lenders, in particular, face this hurdle, as they strive to take a traditionally negative customer encounter—collections—and transform it into a more rewarding customer experience.

Traditional rules-based and static data analytic models can quickly

become outdated in an ever-changing ecosystem. For example, many customers no longer use landlines, and their mobile phones have sophisticated caller ID features, enabling them to easily identify and avoid callers. Further, default management regulations continue to become more stringent, constraining customer contact attempts.

As a result, many customer default treatment strategies are experiencing plummeting contact rates. This problem, combined with a one-size-fits-all approach, makes improving the customer experience in collections extremely difficult.



How machine learning is making a difference

CGI is addressing these challenges through the use of artificial intelligence (AI) and machine learning (ML), and this is creating new opportunities to improve the customer experience in collections. With decades of collections experience and data science expertise, we collected data generated from our next-generation credit management platform, CGI Credit Studio, and conceptualized new ways to improve operational efficiencies, reduce bad net debt, and create a personalized customer experience.

Traditional rules-based decisioning has been effective in the past, but newer ML techniques are beginning to show more insightful and meaningful results. ML enables us to better understand customer behavior and develop persona-based collection strategies, which not only helps in identifying customers who are more likely to pay, but also helps in identifying what is the optimal communication strategy for each customer. An example of this is our work with a large technology financial services client.



Helping a technology financial services client overcome their collection challenges

This client had been facing numerous challenges, including low customer contact success rates, high dependency on a call center, operational inefficiencies, regulatory compliance issues, and cost reduction pressure. To help the client manage these challenges, CGI implemented AI and ML models that deliver predictable outcomes for customizing default management strategies and reducing operational costs.

The client turned to CGI to integrate our AI/ML models within its existing CGI Collections360 solution suite. These models use first-party user data and our own CGI Collections360 data to learn from customers and predict the best channel and time to communicate with customers.

We had a few challenges to overcome in working with this client, including a lack of rich data sources, where to integrate the new models, how to integrate them, and how to use model results to augment the client's current default management strategies.



The client was drawn to our experience in developing and implementing AI/ML models, as well as our channel optimization experience. We were able to help it choose the best methods of contact for customers, in addition to the best time to contact them using the client's existing CGI Collections360 solution. There was no need for any additional solutions or even to upgrade CGI Collections360.

While the client already was using logic-based decisioning to determine its default management strategy, it didn't realize its existing CGI Collections360 solution—CACS 9—could help accelerate its AI/ML journey.

This was a huge value proposition for the client. It didn't need to stand up something new with large upfront costs and then invest in integration and testing. Using its existing CGI Collections360 suite, it could get AI/ML up and running quickly.

Implementing AI/ML models to determine best channel and time

We implemented two different AI/ML models for the client that enable it to know what is the best method of contact and time for getting in touch with a particular customer. With its existing default management strategy, it had a high dependency on its call center as a primary contact channel; 97% of customers were called through that center, with only 2% receiving emails and 1% receiving texts. With only 3 months of ML data and model training, the client's new ML-driven strategy reduced its call center contacts to 85%, while increasing email contacts to 10% and text contacts to 5%.

In terms of determining the best time to call customers, the client's existing default management strategy delivered less than a 1% right-party contact rate out of 1,000,000 call attempts (up to 7 calls per day, per customer). Its time to call strategy was based on random selection or convenience. With its new ML-driven strategy, 4 months of data enabled it to determine optimal contact time patterns, increasing its right-party contact rate to more than 80%.

Overall, the client experienced the following business outcomes:

- Significantly increased contact rates
- Reduced operating expenses due to a reduction in call attempts
- Increased payments
- Reduced roll rates



The evolution of embedded intelligence

Embedded intelligence—using data to drive outcomes—is a core component of every default management strategy. The use of embedded intelligence is evolving—from a crawl (logic-powered decisioning), to a walk (ML-boosted decisioning), to a run (AI-driven insights-based decisioning).

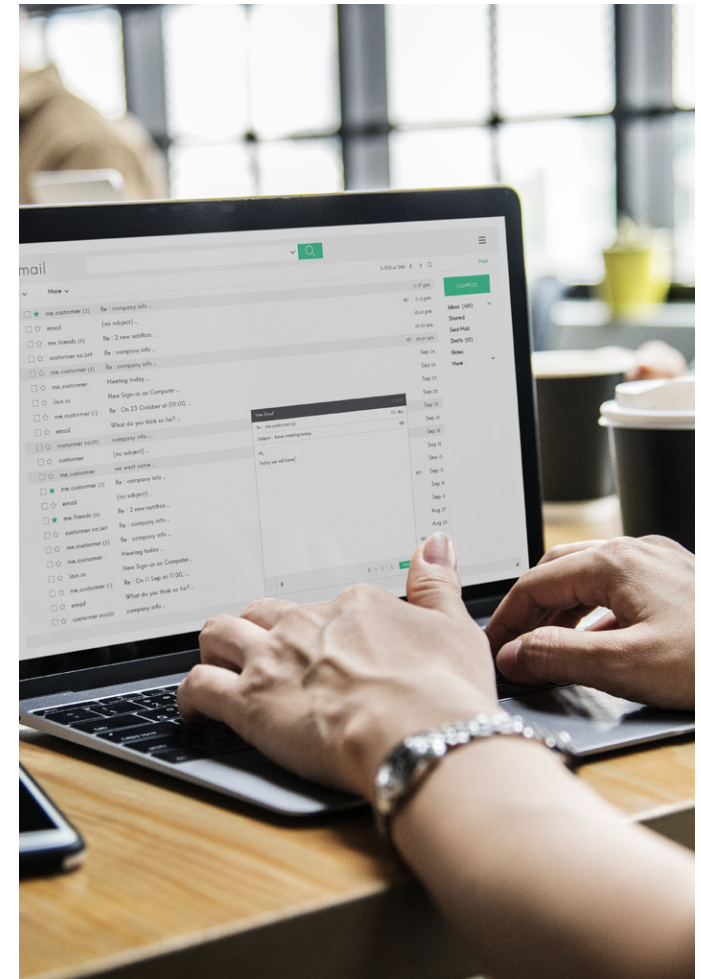
Today, every default management solution relies on some form of logic-powered decisioning, which has been around for decades. Business rules and predictive modeling tools are used to manually build intelligence models that drive outcomes.

The next level of embedded intelligence is AI/ML-boosted decisioning. This involves using supervised ML, programmatic tools, and historic data to predict outcomes. Collections organizations are using ML-boosted decisioning already; the question is whether they are using AI/ML.

In the future, we anticipate the move toward insights-based decisioning using AI. This advanced form of embedded intelligence uses unsupervised ML, AI, and algorithms to automatically identify patterns in data sets to influence business metrics. Further, conversational AI emulates human conversations and responds in a way that reduces the need for a human response.

Logic-based decisioning is rules-based, monolithic, and acts on limited data. As a result, it's much more inefficient than ML-boosted and insights-based decisioning. It also is less agile. Implementing changes in response to evolving business demands can take months or even years.

AI/ML-driven decisioning is highly agile, shortening change cycles to weeks. This form of decisioning analyzes data patterns and then acts on those patterns. As decisions are made, AI/ML models learn from those decisions and adjust automatically to drive desired outcomes.



The future of intelligent collections: personalized, focused, forward-thinking

There have been many fundamental changes in collections over the past decade and technology advances have provided collections professionals with access to more data than ever before. In fact, the volume of available data has increased by more than 50 times in the last 10 years, including first-party data, third-party data, and a wide range of customer behavior data in general. There also is now much greater access to algorithms and data analytics.

Customer expectations continue to evolve. Customers want businesses to know them and provide a customer experience that is personalized, seamless, and real time. At the same time, however, privacy regulations continue to increase, constraining how collections organizations contact and interact with customers.

As the future unfolds, AI and ML will enable collections organizations to better meet increasing customer expectations, while maintaining customer privacy, as well as drive business agility through the following:

- Optimum communication channel strategies
- Hyper-personalized customer journeys
- Conversational AI with virtual agents that provide support via a human-like voice and chat conversations
- Autonomous decisions with continuous performance optimization
- Collections as an extension of customer servicing

CGI's machine learning automated decision engine

Using the [CGI Pulse](#) intelligent process automation platform, CGI is helping collections clients improve the customer experience today, as well as prepare for the future of intelligent collections. Our ML-automated decision engine delivers the end-to-end capabilities required to take full advantage of ML and AI to transform the entire collections life cycle. CGI Pulse is designed to increase customer satisfaction and deliver a wide range of other business benefits, including higher customer contact rates, more effective treatment strategies, greater efficiencies, increased debt recovery, and more.

Our innovative ML-based engine delivers the following features:

Customized ML-based predictions

- Deliver pre-built collection models
- Predict customer behavior
- Enable data-driven decisions
- Create tailored customer journeys

Conversational AI

- Automates agent conversations
- Provides human-like intelligent conversations
- Enables omni-channel bi-directional experience
- Enables dynamic workflows

Dynamic rule learner

- Optimizes decision trees automatically
- Uses history to drive predictions
- Simplifies business rules

Unsupervised AI

- Captures key metrics
- Mines mountains of data
- Finds micro-segments and patterns
- Delivers insights to drive change quickly

With these capabilities, our collections experts can help you accelerate your ML journey by:

- **Connecting the dots** with your customer data, CGI Collections360 data, and third-party data for intelligent journey orchestration
- **Implementing an ML-driven** approach for decision-making
- **Personalizing** treatment strategies to improve collections

Available ML modules

We can share our ML models with you, apply them to your customer data, and begin improving the results of your treatment strategies today. Our ML engine offers you the following six models, with additional models in development.

- **Customer pursuit** – Predicts whether to pursue a customer at this time or not
- **Probability of customer default** – Predicts the probability of future charge-offs
- **Best channel to contact** – Predicts the best channel for reaching a customer
- **Best phone to contact** – Predicts the best phone for reaching a customer (e.g., landline, mobile, work, home)
- **Best time to contact** – Predicts the most convenient time to contact a customer (morning, afternoon, evening)
- **Best weekday to contact** – Predicts the best day of the week to contact a customer (Monday, Tuesday, etc.)

How to get started

1

Boost your current strategies with ML (first 3 months)

- Partner with CGI
- Retrain our ML models
- Adjust your treatment strategies
- Test and deploy

2

Embrace advanced analytics (next 6 months)

Artificial intelligence

- Implement CGI's ML engine and virtual agent tools
- Unsupervised to mine data and find insights
- Define virtual agent experiences

Machine learning

- Continuously refine models
- Retrain 2 new ML models
- Adjust treatment strategies
- Test and deploy

3

Embed intelligence with AI and ML (next 9-12 months)

CGI Credit Studio

- Implement CGI's next-generation credit platform, CGI Credit Studio
- Define hyper-personalized customer journeys
- Embed intelligence in workflows

Event-based at its core, our 24x7 platform delivers comprehensive dynamic workflows and robust compliance capabilities, all of which can be easily configured to meet your business needs and accelerate your transformation.

Artificial intelligence

- Continuously mine data for insights
- Deploy hyper-personalized treatment strategies with a virtual agent
- Test and deploy

Machine learning

- Continuously refine models
- Build new ML models
- Adjust treatment strategies
- Test and deploy

We welcome the opportunity to meet with you to help you get started on your AI/ML-driven collections journey.

[Contact us](#) today to learn more about transforming your credit and collections operations with CGI Credit Studio AI/ML capabilities.



About CGI

Insights you can act on

Founded in 1976, CGI is among the largest IT and business consulting services firms in the world.

We are insights-driven and outcomes-based to help accelerate returns on your investments. Across hundreds of locations worldwide, we provide comprehensive, scalable and sustainable IT and business consulting services that are informed globally and delivered locally.

[cgi.com](https://www.cgi.com)



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