WHITE PAPER

(Gen)AI in Payments: The Impact Is Real

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(Gen)AI in the minds of business leaders

The launch of ChatGPT, the first widely available and user-friendly Large Language model, in November 2022 to the general public marked a pivotal moment for Artificial Intelligence.

This at-scale accessibility and proliferation of AI capabilities has had a profound impact not only on consumers' daily lives, but created a unique opportunity for businesses to drive transformative impact within their organizations. The key unlock for driving meaningful business transformation, however, comes from taking an end-to-end view on business processes, and harnessing the combined power of GenAI, Predictive AI, and good old-fashioned automation.

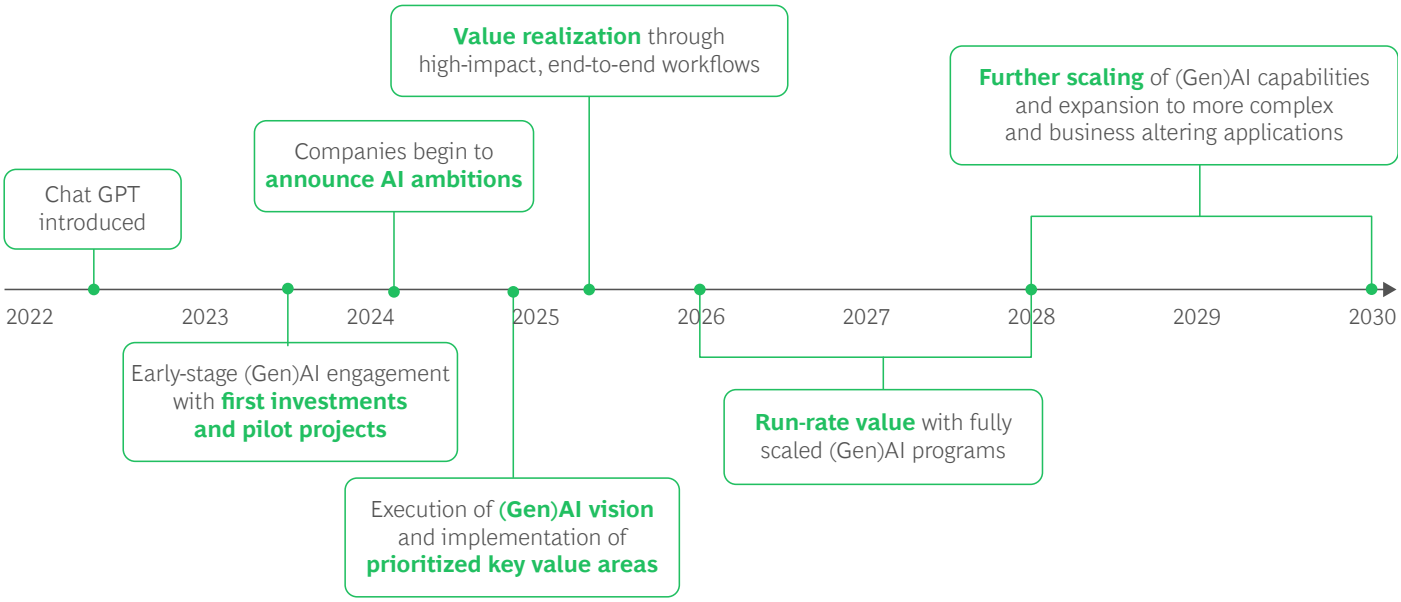
We are now at a point where businesses have gone from experimenting with hundreds of siloed use-cases and not realizing value, to transitioning to end-to-end reimagined workflows that drive clear, measurable, and tangible business impact.

Some large FIs have even publicly set targets on the value that (Gen)AI and automation will deliver:

- RBC, Canada's largest lender, stated at a recent investor day that by 2027, it expects its AI investments to drive $700 million to $1 billion in enterprise value. "GenAI lets us take the capabilities of the top 10% and expand them to the top 80%," CEO Dave McKay said.
- JPMorgan Chase President and COO Daniel Pinto stated that the bank expects $2 billion in AI-related upside as they looked to equip more than 200,000 workers with a suite of GenAI tools.

EXHIBIT 1

Multi-year journey with value along the way; but critical to start now



Note: Throughout this paper, we use (Gen)AI in brackets to indicate a combination of both predictive AI and generative AI.

Over the past year, we have seen a positive evolution in the way businesses are thinking about the value from (Gen)AI; businesses have transitioned from just focusing on productivity and efficiency to also viewing (Gen)AI as a driver for increasing revenue, enhancing employee and client experiences, and reducing risk. Payment companies are unlocking this value across a wide variety of (Gen)AI applications spanning:

- **Business functions** within payments companies, such as tech & engineering, customer support, marketing, sales, data & analytics, and support functions

- **Payments-specific workflows** related to collections, KYC & AML, fraud, and credit & underwriting

While we continue to see successes and several examples of value creation, we also see companies deal with implementation, scaling and adoption challenges. For example, players like Klarna are actively experimenting and learning the balance, having recently pulled back their customer service model from one relying solely on (Gen)AI to a hybrid human-AI model.

Ultimately, companies need to solve for these challenges, identify the highest priority workflows, align on a strong business case and develop a strategic program to deploy (Gen)AI at scale; or risk being left behind as the pace of adoption continues to accelerate.

(Gen)AI as a catalyst in the payments industry

In the world of payments, (Gen)AI deployment is applicable across a range of business functions and payments-specific workflows (see Exhibit 2). By combining (Gen)AI and automation, where most applicable, organizations are able to develop sophisticated capabilities.

BCG has substantial experience supporting clients across a wide range of (Gen)AI workflows that have delivered significant benefits. Below are some notable examples.

1. Tech and engineering: developer productivity

- *Opportunity:* Across organizations, GenAI is already delivering measurable lifts in engineering productivity. In payments, developers make up a large FTE base—one of the industry's most compelling arenas for GenAI impact. Success rests on two pillars. First, deploying GenAI across the software development lifecycle (SDLC) – from developer copilots (e.g., GitHub Copilot) to automated upgrades, migrations, patching, refactoring, code review, and build-and-release automation. Second, driving seamless adoption at scale – embedding robust change-management practices, usage guardrails, and clear KPIs so teams embrace the new workflows. With both pillars in place, organizations shift from one-off efficiency wins to an ongoing cycle of AI-enabled engineering excellence with agentic coding capabilities further enhancing developer productivity (read more here).

- *Impact:* Engineering productivity gains unlock 10% to 20% cost savings while raising quality and developer engagement.

- *What it takes to win:* Feature rollout alone will not unlock the full extent of business value. Firms must orchestrate deliberate change management, tailoring mechanisms that are facilitator led (classroom session, exercises), peer-led (peer demos, ceremonies, community, and self-driven with behavioral nudges and reinforcement (slack, gamification, leadership) (see Exhibit 3). This drives adoption by creating learning capacity in the context of day-to-day work and proving a sustained reduction in "worker toil" across the engineering lifecycle.

EXHIBIT 2

(Gen)AI end-to-end workflow deployment spans a range of functions for payment companies

1 Tech and engineering

- Developer copilots
- Code explainability and knowledge documentation
- Automated upgrades, migrations, patching and minor refactoring
- Code review support
- Production support
- Test environment and data emulation
- Build and release automation

2 Customer support

- Contact center insights (e.g., intents, sentiment)
- Intent detection & routing
- Conversational AI agents (chat, voice)
- Contact center representative co-pilot (e.g., summarization, next best action, in the moment nudges)

3 Marketing

- Insights-driven strategy and campaign brief creation
- Content drafting and image/video asset generation, tagging
- Personalization variant creation and next best action
- Automated approvals of content and offers
- Synthetic testing and experimentation

4 Sales

- Sales rep/RM copilot
- Lead gen & scoring
- Next best action modeling
- Conversational commerce sales chatbots
- Prospecting tools and ability to create mass outreach at scale

5 Data and analytics

- Smart tagging of data from notes, merchant data or metadata to assist with analysis/data lineage
- Auto generation of insights from dashboards and data sets, to summarize information
- Auto documentation of analytics workflows, through analysis of steps in a BI tool
- Intelligent data lineage across domains (such as customers, merchants, etc)
- Smart metadata enrichment & accelerated master data mgmt. (GenAI to analyze master and reference data)

Risk & Compliance

6 KYC and AML

- Unstructured data extraction
- Highlighting if required manual checks
- Improved predictive models e.g. for transaction monitoring
- Chat-supported research across documents
- Report filing and case write-up

7 Fraud

- Enhanced fraud modeling
- Score augmentation through expanded data/indicators
- Scenario simulations for testing
- Customer dispute handling (level 1) and churn analysis
- Articulation of 'why' behind fraud flags & conversational investigation assistant
- Use of GenAI to list vendor names for transactions to reduce disputes volume

8 Credit and underwriting

- Unstructured data extraction e.g. financial statements or collateral documents
- Highlighting of required manual checks
- Improved credit risk modeling, with increased predictive power allowing for optimized leverage of risk appetite
- Structuring recommendations for more complex deals
- Automated identification of credit limit increase and decreases, as well as required interim reviews
- Credit memo write-up

9 Collections

- ML models for risk level/roll rate, best contact time and channel, customer persona/messaging and late stage/recoveries treatments
- Call center agent co-pilot
- Early stage GenAI service agent (chat and phone)
- Custom message drafting

10 Support functions (Finance, HR and talent)

- Finance: Streamlined AP and AR through data extraction from invoices, matching to payment records and appropriate GL codes
- HR: Onboarding and training automation
- Procurement: SOW and contract review
- HR: Talent acquisition (updating/writing job descriptions, interview scheduling, candidate matching, …)
- Legal: Assisted contract reviews

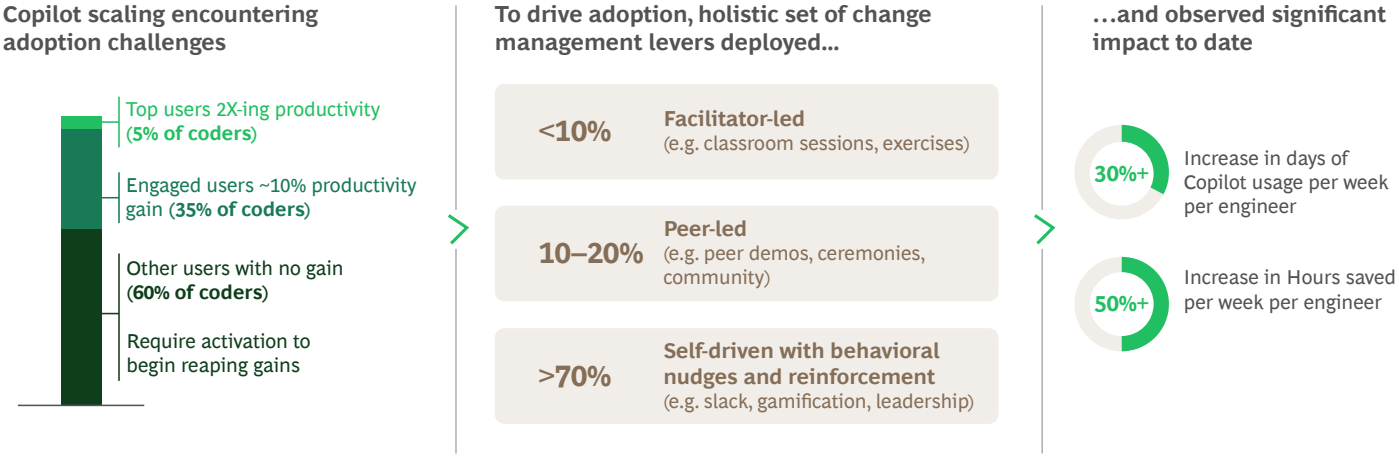
Select examples, functions non-exhaustive

Business functions within payments companies

Payments-specific

EXHIBIT 3

SDLC Case Study | Scaling impact is the hardest challenge requiring a sustained change approach to ingrain new behaviors and drive habitual use



Source: BCG case experience.

2. Customer support: call center efficiency

- *Opportunity:* Payments companies, particularly issuers, dedicate a meaningful portion of resources to call center representatives. The highest call volumes typically related to card services (such as declines, replacements, or limits) and fraud/disputes (for example, unauthorized charges). Organizations can achieve cost center efficiency at scale by: (a) reducing call demand through the increased use of digital self-service tools, and migrating requests from higher-cost to lower-cost channels; (b) automating customer interactions and issue resolution with conversational AI by improving intent recognition and enhancing effectiveness of user authentication across channels; and (c) augmenting service representatives with GenAI by reducing time spent understanding call intent, eliminating reauthentication, and improving problem-solving capabilities (see Exhibit 4). As customer support becomes more advanced, some companies are transitioning to a service-to-sales model, converting servicing customer interactions into opportunities to present offers and spark sales conversations. Best in class payments companies will personalize and adapt the customer experience, some customer segments may be proactively passed to human support based on customer value, risk and cross-sell opportunities. (Gen)AI plays a key role in orchestrating the interaction to get the customer to the most suitable resolution (human or automated).

- *Impact:* 75% to 85% volume contained with reduced average handling times and improved first call resolution, resulting in 30%+ cost savings.

- *What it takes to win:* The first step is an in-depth diagnostic to assess an organization's starting point, key drivers of call volume, and digital self-service capabilities. Once businesses understand their baseline, they can progress with clear GenAI deployment across channels (for example, voice and chat) partnered seamlessly with human agent interventions as required.

3. Marketing: end-to-end campaign execution

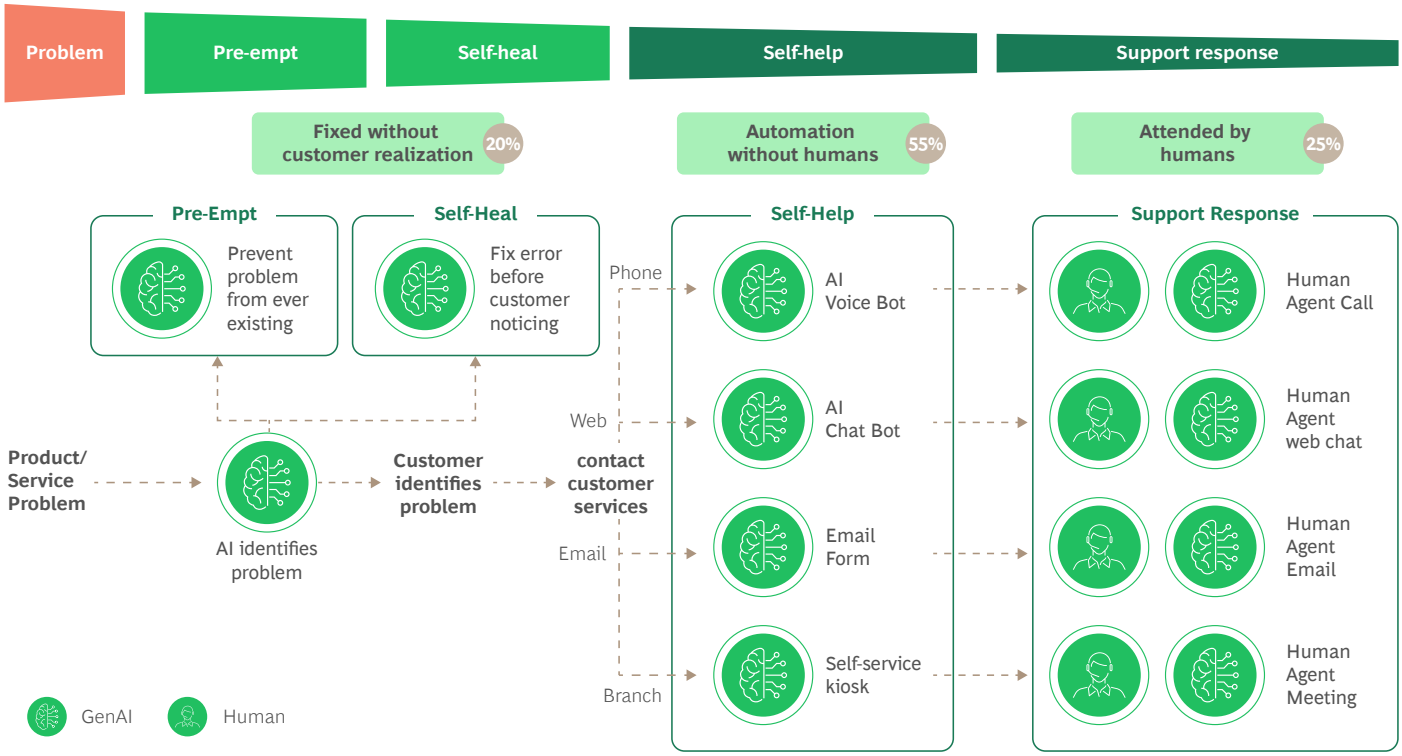
- *Opportunity:* (Gen)AI is reimagining and accelerating key marketing processes across the entire value chain, including: (a) insights & strategy, (b) content creation, and (c) execution & measurement. Within insights & strategy, (Gen)AI allows for nuanced trend analysis and segmentation based on internal and external customer research and data, resulting in highly-precise targeting with matching relevant content strategies. GenAI has transformed content creation through near-instant "right-first-time" short and long-form text drafting, automated image & video creation, translation, and localization based on any targeted micro-segment and for any channel. Finally, within the execution & measurement phase, GenAI supports automated compliance checks, controls, and legal reviews, surfaces and automates campaign optimization insights, and provides rapid experimentation, personalization, and synthetic testing capabilities at a scale never possible before.

- *Impact:* Three-fold increase in content throughput, 20% to 40% reduction in creative costs and 60% reduction in content creation and approval FTEs. Furthermore, there is a broader impact to the marketing organization of the future with a shift in the roles/talent, overall effectiveness increase and reduced dependence on creative agencies and their timelines.

- *What it takes to win:* Integration of (Gen)AI tools into modern marketing technology stack, and new agile marketing ways of working where cross-functional teams execute against re-designed processes natively taking advantage of these new AI capabilities as copilots.

EXHIBIT 4

Future of Customer Service | Reimagining customer service with GenAI



4. Sales: augmented, assisted, and autonomous selling

- *Opportunity:* (Gen)AI has unlocked the art of the possible, building on traditional selling models to incorporate: (a) augmented selling, arming sellers with AI-powered insights, next-best action, collateral, and talk tracks; (b) assisted selling, providing real-time support and nudges for sellers during customer conversations; and (c) autonomous selling with virtual GenAI sales agents to auto-prospect, nurture demand, and tactically surface high-propensity leads to human sellers ensuring sellers spend their time where matters most – on relationships and closing deals. (Gen)AI tools provide targeted customer insights to relationship managers by consolidating internal and external client data (including sales data and call transcripts) into a conversational, queryable interface. They automate previously manual processes such as client outreach emails, pre- and post-call summaries, contract drafting, CRM note taking, and follow-up reminders. Furthermore, they empower sales agents by providing "in-the-moment" recommendations to enhance client dialogue and suggest next-best actions and offers. The most advanced tools can operate autonomously, largely for inbound customer sales inquiries.

- *Impact:* 30% to 40% uplift in corss- and up-selling, and up to 40% reduction in churn seen across industries.

- *What it takes to win:* Clear guidelines on where to deploy augmented, assisted, and autonomous selling with integrated tools and change management to drive agent adoption. This begins with an evaluation of use cases and customer segments where inbound and outbound calls should be handled by humans augmented with co-pilots versus by autonomous AI agents.

5. Data and analytics: data management

- *Opportunity:* GenAI can accelerate every step of modern data management: discovering undocumented data assets, extracting unstructured data from documents into structured data, automating schema mapping and transformation logic, detecting data-quality drift, and building reliable end-to-end lineage. Delving deeper into lineage, data transformation can happen in many places today (such as code, transfers, and data layers). As a result, organizations must often expend significant effort building manual end-to-end views on data lineage. With minimal ability to review transformation logic, these views can contain significant inaccuracies. Leading organizations are implementing (Gen)AI to accelerate creating end-to-end lineage at the data element level (both cross- and within-system), enabling businesses to consume and utilize data lineage insights and automating code refreshes as needed.

- *Impact:* 50% reduction in data governance workflow time (including onboarding datasets to a series of controls across metadata and lineage), accelerated speed-to-compliance coverage, and 20% operating expense savings on current data governance teams.

- *What it takes to win:* Incorporating (Gen)AI into data management can be a substantial undertaking for organizations, as data is the lifeblood on which businesses operate, but collaborative human and (Gen)AI processes for feedback loops result in extremely high human acceptance rates of (Gen)AI outputs.

6. Risk and Compliance: KYC

- *Opportunity:* The KYC process is an essential workflow to every financial institution and payment provider, that continues to pose an operational pain point with a large number or false positive triggers and highly manual processes. An effective KYC process requires, among other things, management of unstructured data, involved research capabilities, an effective prediction capability, as well as targeted write-up and case synthesis. Leveraging (Gen)AI allows for more efficient and effective KYC management, improving risk identification while decreasing processing effort. Core application areas for GenAI add-ons include assessing and synthesizing unstructured data in a dynamic fashion, which can be used as inputs to predictive models. In addition, GenAI can enhance research across multiple, unstructured documents, as well as write-up and synthesis of identified cases. This allows for streamlining of tasks, particularly on low-risk cases, freeing up employee time to focus on more complex cases.

- *Impact:* KYC productivity gains of 30% to 40% alongside improved capture rates and stronger risk management.

- *What it takes to win:* As with all Risk & Compliance (Gen)AI developments, it is crucial to ensure development in line with MRM standards and an ongoing interaction with model validation during the process re-design. Additionally, targeted training and enablement should be provided for the users of the application, including a clearly defined risk-differentiated process.

7. Risk and Compliance: enhanced fraud management

- *Opportunity:* Fraud management is an essential task for all payment providers, and to be optimized, it requires targeted solutions for the different types of fraud such as synthetic ID application fraud or customers falling for a scam (authorized fraud as part of an investment scam). First-party application fraud is on the rise as it becomes increasingly easy to create multiple fraudulent profiles. Top companies train advanced fraud prediction AI models, which combine supervised approaches with unsupervised processes (such as auto-encoder-decoder) on all available data, including unstructured application data ingested via GenAI. For unauthorized transaction fraud, the core challenge is leveraging the most advanced models, while allowing for latency-free model execution in practice when customers make payments, which typically requires powerful approximations. For authorized transaction fraud as part of scams, GenAI can be leveraged to train the case handlers as part of client interactions.

- *Impact:* 20% to 30% flattened cost curve from reduced net fraud losses (specifically chargebacks) for issuers, 40% reduction in false positives rate in cards, and reduction in application fraud losses.

- *What it takes to win:* Identifying the underlying fraud rates and patterns is required as the baseline to then leverage the most powerful data and modeling approach, in addition with latency-free implementation approximations options.

8. Risk and Compliance: credit and underwriting

- *Opportunity:* Credit decisioning is a crucial process as it determines the tradeoff between revenue and future losses. An efficient process for underwriting, for example a small business credit card or approving a merchant cash advance, leverages advanced algorithms and most recent transaction details in addition to financial statements and external scores, to allow for dynamic and accurate credit decisions. GenAI can fast track the use of financial statements, business reports, or collateral details. Furthermore, GenAI can support the credit memo preparation for final approval. Utilizing these technologies allows for effective and real-time risk management, ensuring highest predictive power and hence a risk-adjusted credit process, enabling the underwriters to focus on complex cases requiring tailored structuring.

- *Impact:* Up to 50% improved time-to-yes, 30% to 40% run-rate cost efficiencies and reduced time-to-decision, while increasing the predictive power of the risk assessment and hence increased credit loss reduction.

- *What it takes to win:* To leverage the power of (Gen)AI, it is key to define a risk-differentiated credit process with accordingly aligned procedural guidelines and adjusted credit policies where needed.

9. Collections

- *Opportunity:* Best-in-class collections require proficiency across several capabilities: segmentation & models, proactive outreach & messaging, offers & treatment, digital & traditional engagement channels, and operating rhythm. Across these capabilities, (Gen)AI is enabling companies to further transform their collections processes. Advanced AI already allows businesses to determine key collections decisions including: (a) the right channel (digital vs. calling), (b) the right frequency (timing, churns), (c) the right starting point (pre-delinquency) based on risk level modeling, and (d) legal treatment. GenAI can further support companies to identify needs and behaviors among high-risk pre-delinquent and delinquent customers, in turn allowing for better classification and more targeted approaches. By providing collections agents an "in-the-moment" copilot, GenAI can suggest individualized treatments with the right messaging to customers (including agent nudges to help with tough conversations as well as making sure disclosures are complete), leveraging existing offer waterfalls. The conversational nature of GenAI leads to easier customer interactions, as well (through, for example, chatbots to engage early-stage delinquent customers).

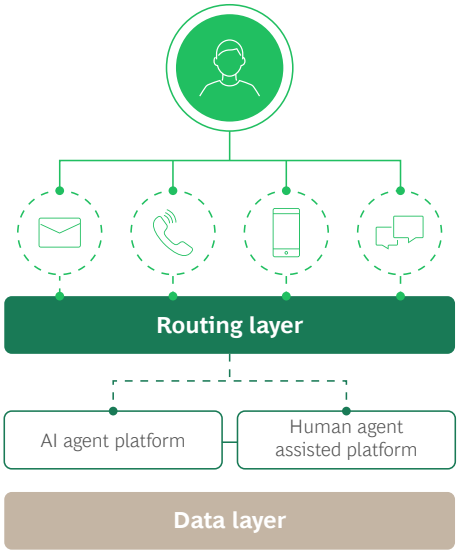
- *Impact:* 10% to 20% reduction in collection operating costs, 5% to 10% net charge-off reductions, and increase in net promoter score and customer retention, assuming a holistic set of available outbound and inbound channels.

- *What it takes to win:* Companies must carefully trial usage before full roll-out to identify where best to leverage (Gen)AI and where humans are critical from a regulatory perspective. Organizations must also fine-tune the degree of concession versus aggression on GenAI-proposed offer presentation. Leading payments companies in the US are building and experimenting today, while in other regions such as APAC, companies are already realizing benefits.

EXHIBIT 5

Target-state AI Collections tech architecture | Conversational AI Agent platform only one layer in a multi-layered architecture

AI agent is one of the many channels to interact with customer…



… requiring key customer and cross-channel considerations for seamless integration and design

1 **Consistent experience across channels**
- Ensure each channel provides a complete and standalone experience
- Maintain consistent messaging and tone across all touchpoints

2 **Inter & Intrachannel handoffs**
- Facilitate smooth transitions between channels
- Ensure seamless sharing of customer context

3 **AI agent platform**
- Optimize channel selection based on customer profiles and preferences
- Leverage unique strengths and roles of each channel

(Gen)AI showing value, versus "promise"

Orchestrating a (Gen)AI program in an organized, impactful way can be challenging. Any one of the above outlined business workflows may serve as a strong starting point but for best results organizations should consider a portfolio of (Gen) AI workflows. The most successful companies are delivering on large-scale (Gen)AI programs with demonstratable value by actioning several best practices:

1. **Need to be business-led:** (Gen)AI use cases must be business-led and technology-enabled.

2. **Rethink the value equation:** Move beyond cost-centric goals to include goals across revenue, risk reduction, and employee & client experience.

3. **Prioritize impact over activity:** Avoid scattered, task-oriented use cases, and focus instead on a few high-impact big bets that reimagine end-to-end workflows, blending GenAI, AI, and process automation.

4. **Fund smart and govern tightly:** Establish a central funding pool with disbursements based on ROI and clear, incentivized business accountability.

5. **Prioritize comprehensive change management:** Shift from a mindset of tool rollout to explicit change management that builds enthusiasm and drives broad adoption.

6. **Measure it, or it will not move:** Define measurable impact commitments and rigorous tracking plans.

7. **Embed (Gen)AI throughout the tech stack:** Build a secure, scalable AI enablement layer with modular architecture to allow for future flexibility and evolution.

The evolution of (Gen)AI is unlocking transformative potential across the payments industry. Forward-thinking payments companies that embrace this journey today stand to redefine efficiency, revolutionize the customer experience, and transform business models. The real question is, where are you on the journey and what is holding you back?

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