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Intelligent Choice Architectures in the Banking, Financial Services, and Insurance Sectors

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Intelligent Choice Architectures in the Banking, Financial Services, and Insurance Sectors

Intelligent choice architectures are a natural next step to providing the adaptive intelligence necessary to navigate increasingly complex banking, financial services, and insurance business environments.

By Michael Schrage and David Kiron

In banking, financial services, and insurance — industries where decisions can influence the behavior of millions of customers — developing better choices represents a strategic, operational, and organizational imperative. Our research finds that using artificial intelligence to generate high-quality choices facilitates better decisions that measurably improve business results. For banking, financial services, and insurance companies looking to deploy AI enterprisewide — to innovate, cut costs, or increase agility — AI's value shifts from improving business processes to improving the quality of options to facilitate better decision-making.

Choices are vital to decision-making; without diverse, detailed, and high-quality options, even the best decision-making processes underperform. Our research affirms that using AI to generate high-quality choices — not just "answers" or "solutions" — leads to superior outcomes in risk management, customer experience, and operational efficiency. Having more robust options can help financial services leaders navigate high-stakes decisions in a sector constrained by regulatory oversight and compliance obligations.

Drawing from both theoretical applications and practical implementations at industry leaders such as Mastercard and Liberty Mutual Insurance, we see AI driving intelligent choice architectures (ICAs) that combine sophisticated data synthesis, pattern recognition, and human insight to deliver better options that result in measurably superior, risk-adjusted outcomes.

Introducing Intelligent Choice Architectures

Leaders at all levels can use intelligent systems to create choice architectures that lead to better decisions and outcomes. The process behind choice architectures, introduced by Richard Thaler and Cass Sunstein, involves organizing the context in which people make decisions to influence their choices. AI-driven choice architectures engage with human decision makers and improve through feedback loops, nudging managers toward innovative thinking and presenting strategic options in ways that counteract human biases.

Intelligent Choice Architectures (ICAs)

Intelligent choice architectures are dynamic systems that combine generative and predictive AI capabilities to create, refine, and present choices for human decision makers. They actively generate novel possibilities, learn from outcomes, seek information, and influence the domain of available choices for decision makers.

Intelligent choice architectures can be designed to suggest resource reallocations, workflow adjustments, or personnel shifts to managers. Selecting the right choice architecture involves considering how such systems would engage users and contribute to enterprise productivity. For example, a large international bank used AI to improve meeting quality and outcomes, leading to more valuable staff interactions and better prioritization of people's time and tasks.

In banking, financial services, and insurance, ICAs are shaped by regulatory requirements, risk parameters, workflows, and customer needs. They actively generate new possibilities — quasi-autonomously or in collaboration with humans — while learning from outcomes to refine offered choices. Given the regulatory and compliance requirements of the sector, ICAs in financial services must be trained to recognize and respect evolving legal guidelines and guardrails. But their recommendations and suggestions must also be shaped by perceived risk parameters, workflows, and customer needs. In other words, technologies, data, compliance frameworks, and intelligent analytics coalesce to structure, prioritize, and present actionable options to the humans responsible for making financial decisions.

Better, Faster, Smarter Decisions

Both Mastercard and Liberty Mutual are contending with this central challenge as they bring together technologies, data, and intelligent analytics to develop ICAs at scale that create better choices for improved outcomes across domains, from risk assessment and fraud detection to customer service and product development.

Consider Mastercard's transformation of its customer interaction model. As Greg Ulrich, chief data and AI officer, explains: "What we've done now is created a GenAI-based platform that provides our customer-facing employees with AI solutions and a new program to build and deploy knowledge agent tools." This technology offers more than mere automation — it enables a fundamental reimagining of how customers interact with Mastercard. The program doesn't just present static options; it simplifies the customer onboarding process, allowing customers to extend new ways to pay faster and more efficiently by automating routine tasks and answering customers' critical questions.

Liberty Mutual's approach to enabling employee productivity provides another compelling example of ICAs in action. According to global CIO Monica Caldas, the company's implementation of generative AI — an internal instance of OpenAI's GPT, called LibertyGPT — has helped employees save over 200,000 hours in 2024. The capability helps them find answers to questions and summarizes vast amounts of information so they can more easily assimilate it.

Trust as the Foundation

In financial services, trust isn't just a feature; it's the foundation upon which all credible innovations must be built. Mastercard's core differentiator is its reputation for trustworthiness, built over decades through robust security and privacy protocols.

"In today's rapidly evolving digital landscape, trust is more crucial than ever," says Ulrich. "Our commitment to robust security and privacy protocols ensures that we not only meet but exceed industry standards. Trust has to sit underneath all of this."

Indeed, trust is an organizing principle for AI adoption, adaptation, and integration, shaping how financial institutions approach ICAs. Intelligent, insightful, and innovative choice sets must not compromise security or reliability. Here, the emphasis on machine learning transparency, interpretability, and explainability plays a key role in building trust in ICAs and the choices they offer. By prioritizing security, transparency, and fairness, Mastercard positions AI not as a risk but as an accelerant for trust-based innovation, which aligns with its brand ethos.

Augmentation Over Automation

Liberty Mutual's High-Performance Engineering (HPE) framework enables the company to reimagine the entire engineering life cycle — from problem definition to product maintenance. The HPE framework enables the technology team to continuously evaluate cutting-edge tools and skills to maximize efficiency and impact. It captures best practices, transforming them into shared knowledge for the entire technology department. By continuously adopting cutting-edge tools like copilots, which are

embraced by 90% of engineers, they have boosted productivity, freed capacity for complex challenges, and achieved a 10% increase in delivery velocity.

Mastercard's Ulrich likewise emphasizes that the goal of AI is not automating jobs away but augmenting human capabilities, particularly for the company's engineers and developers. "We are trying to improve the quality of the coding to create capacity and positive energy so engineers can focus on the highest-value tasks," Ulrich says. This nuanced approach to AI implementation balances efficiency gains and the development of higher-order human capabilities, ultimately increasing both capacity *and* innovation.

Integrating ICAs into financial workflows extends well beyond investment decisions or engineering, however. Mastercard's goals for interoperability demonstrate this potential breadth of impact. "What we need is a common infrastructure so that we can enable vertical insights and start building these things in such a way that we can see across them," says Ulrich. Integrated observability and transparency generate greater clarity and enable better choices across the organization, from fraud detection to customer service. With a unified data architecture, Mastercard aims to connect ICAs across the onboarding, customer care, and sales functions, which will enable Mastercard to unlock cross-functional insights to improve the customer experience and increase operational efficiency.

Building High-Functioning Decision Environments

Banking, financial services, and insurance leaders can take the following steps, inspired by the early experiences of Mastercard and Liberty Mutual, to build their own ICAs:

CREATE A SOLID DATA FOUNDATION. Companies will need to continuously refine their data strategies to ensure that data is not just accessible but also structured in ways that enable it to be used effectively by increasingly sophisticated AI systems. Liberty Mutual recognized the need to accelerate legacy system modernization to fully capitalize on AI capabilities. This shift included moving data to the cloud and implementing master data management to ensure data accessibility and quality.

Banking, financial services, and insurance leaders seeking to implement ICAs should embrace five key practices that underpin their effective development and application:

1. Measuring and assessing choice quality through outcome metrics
2. Creating feedback loops between decision options and financial outcomes
3. Capturing data and metadata linking "enhanced choices" to improved/better decisions
4. Making choice-decision connections visible, interpretable, explainable, and actionable
5. Ensuring that AI serves both choice generation and decision enhancement

EXPERIMENT WISELY. Mastercard's Ulrich emphasizes the importance of rigorous R&D processes in exploring generative models. Applying AI can increase costs without delivering proportional value, as Ulrich found in the context of financial planning and analysis. By openly experimenting with and evaluating generative models in structured contexts, such as transaction data, Mastercard can pursue disciplined innovation while avoiding AI adoption for its own sake.

While Liberty Mutual developed LibertyGPT within two weeks of obtaining enterprise access to OpenAI's large language model, Caldas has taken a phased approach to AI experimentation, beginning with internal use cases before exploring customer-facing applications. "We're being very thoughtful in how we spend our energy and on which use cases," Caldas says. "We're starting with that low-hanging fruit." That low-hanging fruit — currently nine uses cases — has an estimated value of $100 million. This approach allows the company to innovate at scale while managing risk and ensuring that proper governance structures are in place.

PILOT SMARTER CHOICE-DECISION PROTOTYPES. Select *one* high-stakes decision process (e.g., approving credit card transactions or assessing claims) and then track *both* expanded choice sets *and* the resulting decision quality. The key metric isn't simply a greater number of options but the extent to which better choices lead to demonstrably better outcomes. Banking, financial services, and insurance companies can use AI to generate options, but they should measure success in terms of decision improvements.

INVEST IN COMPOUNDING VALUE. Mastercard is leveraging network effects through iterative data collection and refinement, which has improved customer service delivery. "With more data, we add more value to our services," explains Ulrich. "With more services, we add value to our payments ecosystem, creating a virtuous loop."

LOOK BEYOND THE INCREMENTAL. The true value of AI comes not from simply optimizing existing workflows but from identifying opportunities to generate transformational value through AI-enabled services. Rather than simply automating existing processes, companies should fundamentally redesign workflows to take full advantage of AI capabilities. This may involve using AI itself to analyze and optimize processes.

DEPLOY CHOICE-OUTCOME CAPTURE PROCESSES. For every major decision, document the answers to these three questions: "What options did we consider?" "Which did we choose and why?" and, crucially, "What measurable improvement did this enhanced choice set enable?" This documentation creates a data set that explicitly links expanded choice to improved decisions. This data set can also become a training set.

TAP INTO THE ECOSYSTEM. These sectors will need to become more adept at integrating external AI capabilities into their operations, which could lead to new partnership models and more fluid organizational boundaries. Liberty Mutual is continuing to build capabilities in automation via various channels. Among its efforts is exploring accelerating the use of AI with third-party partners, particularly in business process outsourcing (BPO), to both learn from and experiment with different use cases. "It is interesting to experiment with BPO partners because they are considering standard operating procedures and using AI to accelerate as well as provide higher-quality services," says Caldas. "This creates an opportunity for us to partner with them in this way, which is different from traditional ways of working with BPO. It's creating a win-win scenario in terms of efficiency and effectiveness."

FOSTER A CULTURE OF CONTINUOUS LEARNING AND ADAPTATION. Banking, financial services, and insurance will need to develop new models for human-AI collaboration after identifying areas where AI can augment human decision-making and creativity rather than replace it. This empowerment will require skills development and education for those who will be working with ICAs. At Liberty Mutual, Caldas prioritizes continuous learning and raising employees' digital IQs by encouraging people to use technology and experience it through ongoing learning programs. Its Executech program, for example, educates leaders about technologies like AI and their potential impact on the business. As AI continues to advance, financial services firms will need to implement dynamic training and education programs, as well as skill mapping and forecasting systems, to stay ahead of changing skill requirements.

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Three Key Takeaways for Banking, Financial Services, and Insurance Organizations

ICAs in banking, financial services, and insurance show concrete benefits when implementations focus on decision quality, build on integrated infrastructure, and follow risk-calibrated deployment paths. Mastercard's and Liberty Mutual's ICA efforts bring these key insights to life.

1. **ICAs deliver measurable improvements in both operational efficiency and decision quality when they expand and optimize choice sets rather than just automate existing processes.** Liberty Mutual's claims-processing transformation demonstrates that ICAs aren't just automating workflows — they're improving decision quality. By synthesizing claims data to present optimized resolution options, claims adjusters make better, faster decisions while saving hundreds of thousands of employee hours. The focus shifts from process efficiency alone to decision enhancement.

2. **ICA success depends on integrated data infrastructure that can capture, measure, and refine connections between expanded choices and improved decisions.** Mastercard's experience shows that ICAs require a unified data architecture to deliver value. As Ulrich notes, "What I need is a common infrastructure so that we can enable vertical insights." This foundation enables cross-functional improvement across onboarding, customer care, and sales by connecting choice architectures to actual customer interactions and outcomes.

3. **Banking, insurance, and financial services institutions achieve ICA benefits through careful staging — experimenting with contained use cases, then measuring outcomes, and, finally, scaling proven applications.** Both Mastercard's and Liberty Mutual's choice architecture implementations are examples of disciplined ICA rollouts that balance innovation with risk. Liberty Mutual began building internal use cases focusing on the employee experience and internal employee productivity before considering customer-facing applications. Mastercard rigorously evaluates generative models through structured R&D, avoiding adopting models that lack proven value. Both companies prioritize trust and security in their choice architectures.

Better Choices to Address Banking, Financial Services, and Insurances' Biggest Challenges

ICAs can help financial institutions address their most pressing challenges: risk management, regulatory compliance, customer experience personalization, fraud prevention, and market adaptation. As Liberty Mutual's experience shows, when generative AI tools are properly integrated into choice architectures, they can save hundreds of thousands of employee hours while also improving decision quality.

The ability to realize the potential of AI in banking, financial services, and insurance lies not just in greater automation at scale but in a fundamental rethinking of how enabling, observing, and networking ICAs across the enterprise can create new opportunities for efficiencies, effectiveness, and innovation. As Mastercard's Ulrich notes, "It's not just about making life faster or simpler; it has to change the overall experience." Through ICAs, banking, financial services, and insurance institutions can create this transformative change while intelligently building on the trust that drives their competitive advantage.

Appendix:
ICAs Transform the Decision Environment

The table below outlines the capabilities of intelligent choice architectures to change decision environments.

Intelligent Choice Architecture (ICA) Capabilities	How ICA Capabilities Change Decision Environments
Elevating Decision Quality Through Expanded Choice Sets	ICAs bring a wider array of high-quality, contextually relevant choices to the forefront. Unlike traditional decision tools, which often present static or limited options, ICAs dynamically generate new alternatives based on evolving data patterns and contextual insights. This expansion means that decision makers are not confined to conventional or habitual choices; instead, they can consider innovative options that may have been previously hidden or overlooked. This boosts the quality of decisions by ensuring that people's choices reflect a more comprehensive understanding of the decision context.
Anticipating Outcomes With Predictive Foresight	By integrating predictive modeling, ICAs provide decision makers with insights into potential outcomes for each option in real time. This anticipatory capacity helps decision makers weigh trade-offs and risks more effectively. For example, a retail manager assessing inventory decisions might see not only the immediate costs but also the projected downstream impacts on sales, supply chain dependencies, and seasonal trends. This predictive foresight helps decision makers align their choices with longer-term strategic goals rather than just short-term gains.
Adapting Choices Through Continuous Learning and Feedback	ICAs learn from previous outcomes, continuously refining their own architecture based on new data and feedback. This means that decision environments are not static; they evolve and improve over time, becoming more aligned with organizational goals and individual decision makers' preferences. In a talent management scenario, for instance, an intelligent choice architecture might identify patterns in employee performance and turnover to adjust its recommendations for promotions, training, or transfers. This adaptability ensures that the system remains relevant and valuable as situations and objectives shift.
Enhancing Decision Confidence by Revealing Hidden Interconnections	ICAs expose the interdependencies between different choices, making it easier for decision makers to understand how one choice impacts others across the organization. This interconnected view is particularly valuable in complex environments where decisions in one area can have cascading effects in others. For example, a marketing manager at a global retailer like Pernod Ricard could see how adjustments to campaign targeting affect inventory needs, distribution channels, and customer engagement. By making these connections transparent, ICAs help decision makers feel more confident and informed since they can see the broader implications of their choices.

Intelligent Choice Architecture (ICA) Capabilities	How ICA Capabilities Change Decision Environments
Decentralizing Decision-Making With Tailored Choice Architectures	By providing context-specific guidance directly to individuals at all levels, not just top leaders, and tailoring decision environments to the needs of different roles, intelligent choice architectures enable more agile and decentralized decision-making across the organization.
Reducing Cognitive Load by Streamlining Complex Information	ICAs filter and prioritize information, presenting decision makers with the most relevant data and choices, which minimizes cognitive overload. Rather than wading through endless reports or raw data, decision makers receive streamlined insights and summaries that highlight essential patterns, anomalies, and recommended actions. For example, in supply chain management, an intelligent choice architecture could surface key inventory adjustments or supplier choices based on real-time demand fluctuations and historical trends, sparing managers from unnecessary complexity. By simplifying complex information, ICAs allow decision makers to focus their attention on critical decisions with clarity and confidence, improving both speed and accuracy in decision-making.
Personalizing and Interacting With Decision-Making Environments	ICAs create an interactive, engaging, and highly customized environment that adapts to each decision maker's preferences, needs, and goals. Rather than offering a one-size-fits-all interface, these architectures adjust dynamically, using user interactions and feedback to shape how information and options are presented. For instance, a retail executive might prioritize metrics like customer lifetime value or churn predictions, while a store manager may need insights on daily inventory and staffing. ICAs can personalize dashboards and recommendations accordingly, making interactions feel more intuitive and responsive. Additionally, intelligent choice architectures can incorporate interactive tools like what-if scenarios, simulations, and decision trees, enabling decision makers to explore potential outcomes in real time and test various options before committing to a course of action. This interactive engagement not only makes the decision process more enjoyable but also boosts confidence, since users can see the immediate effects of adjustments and tailor their decision pathways to better align with strategic priorities.

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