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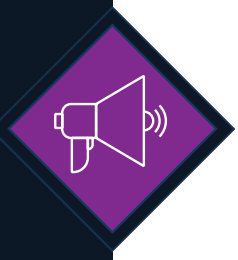
Intelligent Choice Architectures in the Communications, Media, and Technology Sectors

by Michael Schrage and David Kiron



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Intelligent Choice Architectures in the Communications, Media, and Technology Sectors

The most forward-thinking communications, media, and technology organizations recognize that AI is more than simply a medium for automating workflows and business processes and see it as a strategic asset.

By Michael Schrage and David Kiron

In the media industry and capital-intensive industries like communications and technology, business leaders are under relentless pressure to optimize operational efficiency, improve decision-making, and unlock new revenue opportunities. As generative and predictive AI capabilities rapidly evolve, the most forward-thinking organizations recognize that AI is more than simply a medium for automating workflows and business processes; it's a strategic asset that can identify and unlock new value-creation options and opportunities.

The true business impact of AI is not just in making existing decisions more quickly or cheaper but in fundamentally expanding the choices available to decision makers, optimizing strategic trade-offs, and enhancing financial outcomes.

This is where intelligent choice architectures (ICAs) come into play. Expanding upon the concept of choice architectures — which intentionally organize the context in which people make decisions — ICAs integrate AI into choice architectural design and production. These AI-driven systems are more than decision optimizers; they empower communications, media, and technology companies to identify, evaluate, and act on more valuable opportunities than ever before.

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.

This paper explores how leading companies, specifically, BT, Meta, and ASML are using ICAs to optimize choices, reallocate decision rights, and boost their bottom lines. By making business impact the priority rather than focusing only on the technical mechanisms at work, ICAs demonstrate how AI can help deliver increased financial returns, competitive advantage, and risk-reducing governance models. While each company competes in a distinct industry — replete with distinctive structural constraints and competitive dynamics — and their approaches to ICAs vary, their collective insights converge on a fundamental truth: Human judgment can thrive when organizations leverage AI's computational strength, and vice versa.

From AI-Enabled Automation to AI-Driven Business Transformation

Using AI to equip business leaders with better choices can lead to superior business outcomes. British multinational telecommunications company BT, for example, is harnessing AI to increase customer retention and drive revenue growth. By embedding ICAs into its customer engagement processes, BT is aiming to reduce churn, increase retention, and improve customer lifetime value (CLV). BT focuses on enhancing customer interactions and experiences to increase satisfaction and loyalty; providing personalized and timely support to make customers feel valued and understood; offering proactive interventions to address at-risk customers and manage contract renewals; and reducing the cost to serve per channel to deliver more efficient and effective customer service.

At the heart of these efforts is Aimee, an AI-driven assistant that proactively suggests customer interventions that could lead to greater customer satisfaction and reduced customer service costs. Built on a natural language processing (NLP) foundation, Aimee is "highly skilled on products and service issues across a whole range of BT consumer offerings," explains Mark O'Flaherty, the company's interim managing director, digital data and AI. Deployed in 2023, Aimee is involved in 60,000 customer conversations weekly, handling about half of the more straightforward interactions (e.g., product or billing questions) on its own and working hand in hand with BT advisers on the other half. "It started off as very much an automation play," O'Flaherty says. "But with NLP, we realized Aimee could do much more in the realm of augmentation."

BT's focus now is on offering more refined choices to advisers in the "next best action" realm. "We risk putting customers off if the more junior-level advisers pick the wrong options," explains O'Flaherty. "So where the next best action used to come back with 20 options, we want it to be five." Aimee's evolution from automating basic tasks to augmenting human agents underscores that ICAs are most beneficial when they enable people to increase their speed in navigating nuanced, customer-specific issues.

Similarly, Meta's implementation of ICAs allows internal teams to make data-informed product decisions faster, experiment with new business models, and optimize user engagement strategies. Its Metamate AI tool is available to employees in every business function, including project managers, data scientists, finance teams, and marketing teams.

The year-and-a-half-old internal AI assistant increases Meta's operational agility, improves revenue-per-user via AI-optimized engagement, and drives faster time to market for AI-powered features. About half of the company's employees — HR, marketing and sales, and engineering among them — use Metamate at least weekly. "Employees are starting to lean a lot more on the tool to help them make better, informed choices," says Ragavan Srinivasan, vice president of product at Meta. "They have a thought partner." ICAs recognize and amplify "large patterns" in workflows that, as Srinivasan notes, humans might miss but can interpret once they're surfaced.

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AI-driven ICAs can unlock new business opportunities, optimize revenue streams, and mitigate risks that impact financial performance.

At ASML, the stakes are even higher. While acknowledging that intelligently architecting choice through AI has just begun at the capital-intensive Dutch global semiconductor manufacturer, CIO René Botter emphasizes that human decision makers need better options in order to make better technical and investment decisions. ASML's digital simulations, for example, need to learn to make better design and/or trade-off recommendations. For example, while ASML sales may grow steadily, frequent last-minute fluctuations in demand threaten supply chain efficiency and effectiveness. When these volatile demand shifts occur, the company uses probabilistic AI modeling to evaluate trade-offs in its complex semiconductor supply chain investments. Humans remain "on the loop" for supervising rapid, high-confidence decisions largely executed by AI, and "in the loop" by making high-stakes strategic supply chain decisions. That is, ASML combines nascent ICA approaches with a dynamic decision rights framework that continually reassesses the extent to which humans need to be involved in various decisions. This emerging combination will enable ASML to better mitigate supply chain risks, increase returns on capital investment, and achieve higher asset utilization, Botter says.

These varied use cases demonstrate that AI-driven ICAs can do more than merely cut costs; they can unlock new business opportunities, optimize revenue streams, and mitigate risks that impact financial performance.

ICAs and Competitive Advantage: The Big Shift

ICAs drive those business outcomes by transforming how organizations allocate resources, optimize decision-making, and expand their market potential. AI is redefining what drives strategic benefits in this sector in (at least) three dimensions:

FROM OPERATIONAL EFFICIENCY TO STRATEGIC GROWTH. Traditional AI implementations have focused on process automation and cost cutting. ICAs, however, go beyond efficiency to fuel innovation, market agility, and new revenue generation. As previously mentioned, AI enables strategic risk forecasting, ensuring that capital investments yield measurably better returns at ASML. As Botter explains, this becomes possible as ICA frameworks not only help refine the decision process but also expand choice sets, acting as cocreators of strategic value. BT's integration of ICAs into customer interactions to reduce churn, improve CLV, and drive revenue growth offers additional examples.

FROM CENTRALIZED DECISION-MAKING TO DISTRIBUTED INTELLIGENCE. Organizations that embed ICAs into their workflows empower both human and AI agents to make more accurate, timely, and profitable decisions. BT is integrating ICAs into its human agent

workflows to provide real-time recommendations, summaries, and decision cues so managers can dynamically adjust their customer engagement approaches to improve the customer experience and maximize revenue per customer.

FROM COMPLIANCE-CENTRIC AI GOVERNANCE TO COMPETITIVE AI FRAMEWORKS. Most AI governance models have focused on mitigating risk. ICAs, however, can turn governance into a business advantage, ensuring that AI-driven decisions align with long-term enterprise value creation. At Meta, governance becomes a data source for improving Llama, its open-source language model, which is democratizing access to AI in the developer community and is used by companies as varied as LinkedIn and Spotify. "We want to deploy these models in applications that are as broad and as diverse as possible so you can actually observe what humans do with them," Srinivasan says. "A profound technological shift is happening. And if you look back through history, that's only worked when you have the entire intelligence of the human community collaborating." ASML's AI governance framework, with humans either in the loop or on the loop (depending on the nature of the decisions being made), balances speed, accuracy, and human oversight to optimize capital investment. In the context of AI, BT's allocation of decision rights ensures that automation increases customer loyalty without sacrificing trust.

Redefining Decision Rights for Business Impact

Integrating ICAs into workflows encourages and enables telecom, media, and technology executives to rethink how decision-making authority is allocated and challenge legacy notions of well-defined decision rights that have been handed down by centralized leadership teams. BT's experience with Aimee illustrates how reallocating decision rights is necessary to take full advantage of enhanced decision environments. Aimee's direct interactions with customers can boost retention and revenues when it's given decision rights over what recommendations to make and how to provide customer service. However, human oversight ensures that the AI assistant's decisions align with the company values of brand trust and service excellence. O'Flaherty notes that this dynamic will shift toward greater machine autonomy as BT's ICAs become more sophisticated.

Meta's Metamate enables decentralized decision-making, empowering employees with predictive insights that enable them to optimize user engagement strategies. However, the company clearly maintains flexibility in allocating decision rights among humans and machines. Srinivasan notes that the company's ICAs serve as collaborators in some contexts and autonomous agents in others. This adaptability ensures that ICAs enable more efficient, effective, and personalized decisions without interrupting workflows.

ASML offers a third approach: Decision authority is tied to the context and complexity of choices. AI handles low-risk, high-speed optimizations while humans govern strategic investment choices with AI assistance. In this way, says Botter, ASML seeks to reduce human decision makers' cognitive loads while leveraging AI's ability to navigate complexity. That transition is now underway.

Measuring AI Success: The Need for Intelligent KPIs

To realize the full business benefits of ICAs, organizations must redefine how they measure success. Effective ICAs deliver more than increased efficiency, which means that traditional KPIs that focus on cost savings are insufficient. AI-enhanced KPIs, however, can be used to evaluate the quality and breadth of ICA-enabled decisions and connect them to financial impact. These metrics are essential for ensuring transparency in AI-driven processes and aligning decision rights with organizational goals.

BT's integration of next-best-action systems with CLV metrics illustrates the power and potential of this approach. By connecting AI-driven recommendations to strategically important business outcomes, ICAs intelligently advance both profitability and customer satisfaction metrics.

Similarly, Meta's AI-driven engagement metrics predict revenue potential and optimize ad monetization. Employee use of Metamate highlights the importance of

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measuring productivity gains from using the tool — a key indicator of ICA effectiveness in the enterprise.

ASML intends to take ICAs further by marrying intelligent KPIs with predictive analytics, aligning decisions made with ICAs to strategic objectives. Probabilistic ROI models that learn over time increase the likelihood that AI-enabled capital allocation decisions maximize shareholder value. It's a virtuous cycle: Better ICAs drive better choices, which in turn drive better outcomes. That said, ASML's capital intensiveness and the unforgiving nature of precision-engineering tolerances ensure that ASML will bring an evaluation-intensive approach to its ICA innovations and deployments.

Executives who fail to develop intelligent KPIs will struggle to capture AI's full business value. ICAs must be measured not just on efficiency but on decision quality, revenues, and risk-adjusted returns.

Toward AI as a Business Value Accelerator

The future of AI in communications, media, and technology lies in the strategic transformation of decision-making. ICAs drive business impact by expanding choices, enabling the redistribution of decision rights, and maximizing financial returns. The companies that embrace this transition will not only reduce their costs but also generate new revenue streams, improve their competitive positioning, and increase shareholder value.

The collective experiences of BT, Meta, and ASML reveal five guiding principles for organizations seeking similar benefits.

1. **ICAs are cocreators of business value.** The role of AI should not be limited to optimizing existing workflows. Rather, telecom and technology leaders should deploy ICAs to create new pathways for value generation.

2. **ICAs can enable new value-creation ecosystems.** ICAs don't just enhance existing technology stacks; they facilitate the formation of new cross-industry value chains, especially as AI adoption blurs the boundaries between industries.

3. **ICAs support human and autonomous decision makers in different ways.** ICAs are most beneficial to humans when they reduce people's cognitive load in the decision-making process. For AI agents, explainability is a key requirement. The human-in-the-loop approach will remain essential, but with changing levels of involvement.

4. **AI governance models should be dynamic.** Decision rights must evolve alongside ICAs, balancing autonomy with accountability as they adapt to different contexts.

5. **Intelligent metrics measure intelligent systems.** Organizations must develop KPIs capable of measuring the holistic impact of ICAs — evaluating outcomes, decision quality, and system adaptability.

The convergence of these principles marks the beginning of a new era in telecommunications, media, and technology — an era in which ICAs reshape industries by intertwining human creativity with machine intelligence. The question for industry executives is no longer "Should we implement AI?" but "How do we design AI-powered decision environments that lead to business outcomes aligned with our strategic priorities?" The telecom, media, and technology organizations that master ICAs won't just make better decisions — they will redefine what decisions are even possible and, in doing so, remake their industries.

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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