AUTOMATION ANYWHERE

The Capability Maturity Model for Collaborative Intelligence

A framework for evaluating, harnessing, and operationalizing AI to collaboratively elevate human effort

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Abstract

The transformative impact of artificial intelligence (AI) across various sectors highlights the potential of humans and AI working side by side to do more while enhancing enterprise efficiency and innovation. As enterprises increasingly infuse AI into operational processes to make processes more autonomous, the implications of human workers collaborating with AI at varying levels create both opportunities and challenges.

This paper presents a Capability Maturity Model for Collaborative Intelligence, offering a structured approach for organizations to infuse AI-driven strategies while addressing associated risks, the need for targeted change management, and more. It also shows how and where enterprises can use collaborative intelligence across enterprises as they progress through maturity levels. The aim is to provide valuable insights and practical guidance for leaders seeking to navigate the complexities of AI infusion to achieve sustainable competitive advantages.

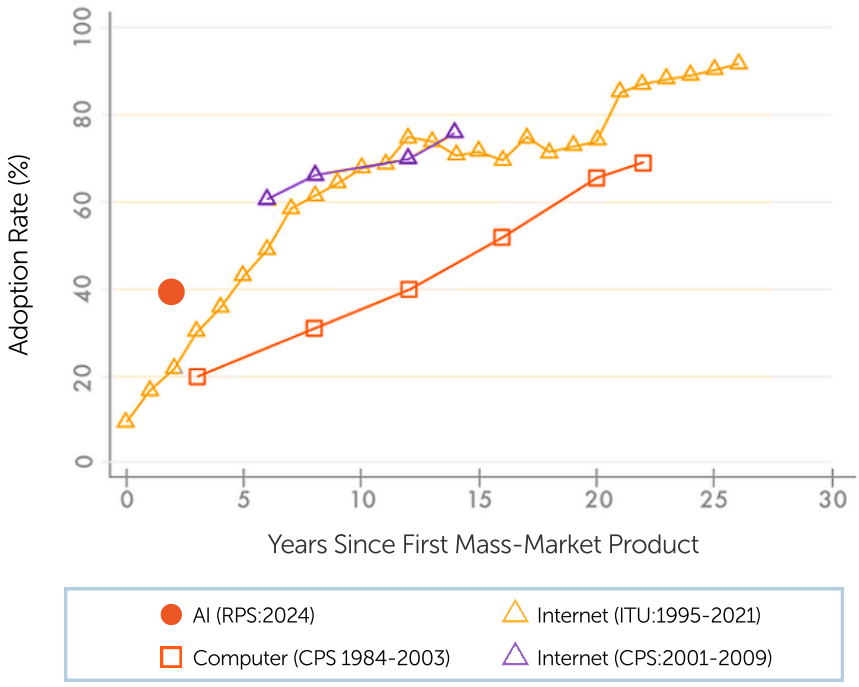
The AI era will be won with collaborative intelligence

There is no way to overstate the impact artificial intelligence (AI) is having, and will have, on our world. AI's potential to enhance efficiency and foster innovation is unprecedented. It is a transformative force that is already reshaping everything from discrete tasks to entire industries.

Enterprises are jumping onboard the AI train at a breakneck pace. IDC predicts global AI spending will double within four years, growing almost 30% annually. CFOs are supporting those investments, with Gartner finding 71% increased AI spending in 2024. In 2025, Gartner further expects spending on AI-related services to jump by 21%.

For generative AI, the growth is even more impressive: the technology is being adopted at a faster pace than PCs or the internet. Generative AI has a 39% adoption rate after just two years, according to researchers, putting its early point far ahead of other recent technology adoptions, like 20% for the internet after two years and PCs after three years.

The Trajectory of Computer, Internet, and AI Adoption



Source: The Project on Workforce

On the leading edge are innovators focused on ways AI can fundamentally transform how humans work. Traditionally, "work" is defined as workers completing processes using human knowledge and reason combined with using systems of engagement to access information in systems of record. The new approach focuses on achieving a goal—where some processes are entirely automated and executed using AI to improve speed and accuracy, and others are accomplished through collaboration between workers and AI to increase decision-making speed, effectiveness, and confidence.

AI agents, or agentic AI, are bringing even more excitement and potential to this space. These action-enabled AI-powered assistants work semi-autonomously or autonomously, making decisions based on inputs and perceptions, communicating in natural language, adapting to dynamic situations, and acting to reach the desired objective. Deloitte says AI agents will be transformative to business models and industries, "enabling new ways of working, operating and delivering value."

Looking at the AI landscape as a whole, smart organizations are increasingly recognizing that the true potential of AI is not in replacing human workers but in augmenting human capabilities through this collaborative intelligence.

A framework for AI-driven transformation

Unfortunately, Accenture research reveals that 65% of executives admit they lack the technological expertise necessary for AI-led transformation. That's an enormous gap, but one that can be bridged using structured frameworks to help ease the implementation of AI to revolutionize operational processes, redefine business functions, and restructure organizational hierarchies.

Also, AI is not without risks. There is the challenge of the "black box" problem, which arises from the opaque nature of many AI systems that compromise trust. There are bias and ethical concerns, data privacy and security issues, and more, all of which need to be addressed and overcome by AI leaders. Fortunately, structured frameworks can help here, too, by ensuring enterprises deploy and follow AI governance, risk, and compliance structures.

What is AI's "black box" problem?

It's easy to recognize a never-before-seen tree as a tree because it has a trunk, branches, and a common shape. Yet, it's unknown how human brains move from first learning the characteristics of a tree to immediately recognizing an object as a tree.

Deep learning algorithms, a foundational form of AI, were built to mimic this type of learning. They are fed millions of images of trees and can then recognize a tree when presented with a new image. However, just as with the human brain, it's unclear how these systems make the leap from learning what a tree looks like to identifying one.

A "black box" is a term used to describe a system where the inputs, operations, or outcomes are not immediately visible or understandable.

Deep learning algorithms exemplify this issue in AI—if an AI system evaluates an image of a person but identifies them as a tree, it's unclear why it reached that conclusion. This becomes a critical challenge in real-world AI applications, such as loan approvals and medical treatment plans, where people need to understand why a loan was denied or a treatment prescribed. And there are a host of ethical, safety, regulatory, and other risks that arise when AI makes decisions autonomously since unknown biases or conflicts might be at play.

To address this, technologists are developing explainable AI (XAI), which aims to make AI decision-making more transparent. XAI clarifies the inputs and processes that lead to an AI-generated outcome, helping to identify biases and build trust in AI-driven decisions.

This paper introduces a Capability Maturity Model for Collaborative Intelligence (CI-CMM), which provides a structured framework for infusing AI into organizational practices to achieve goals while mitigating risks. By approaching AI deployment and scalability methodically, this model ensures effective implementation in alignment with strategic business objectives. The model covers how organizations can infuse AI into operational frameworks, how to traverse maturity stages, how to cultivate trust and transparency, and more.

With the CI-CMM, organizations are better equipped to deploy an AI-infused operating model to succeed in what will continue to be an increasingly AI-driven economy.

The new system of work: human + AI collaboration

Researchers at Accenture and the authors of Human + Machine: Reimagining Work in the Age of AI analyzed 1,500 companies and found that those deploying AI to displace human workers only see short-term productivity gains. Conversely, those that use AI to augment human effort will achieve the most significant improvements.

This is collaborative intelligence, a synergistic partnership between humans and AI to enhance decision-making and innovation.

AI technologies have transitioned from interesting experiments to essential tools for driving business value. Machine learning algorithms, natural language processing, and advanced and predictive analytics are now integral to sectors such as finance, healthcare, manufacturing, and retail. AI empowers organizations to process vast amounts of data, automate complex end-to-end tasks, and deliver personalized experiences at scale.

Collaborative intelligence as a concept shifts the paradigm from AI as a mere tool to a collaborative partner that enhances decision-making and creativity. AI can perform data processing and pattern recognition, for example, at an increasingly large scale far beyond human ability, giving humans more time and insights for strategic thinking, problem-solving, and innovation.

Organizations are increasingly adopting AI-infused operating models to fully harness collaborative intelligence's benefits. These models involve comprehensive changes in governance, organizational structures, processes, technology, and performance management, ensuring that AI infusion is holistic and aligned with strategic business objectives.

The CI-CMM guides executives with a five-stage roadmap to evolve from today's basic AI interactions to fully autonomous operations combined with human-AI collaboration.

Part I: The Capability Maturity Model for Collaborative Intelligence

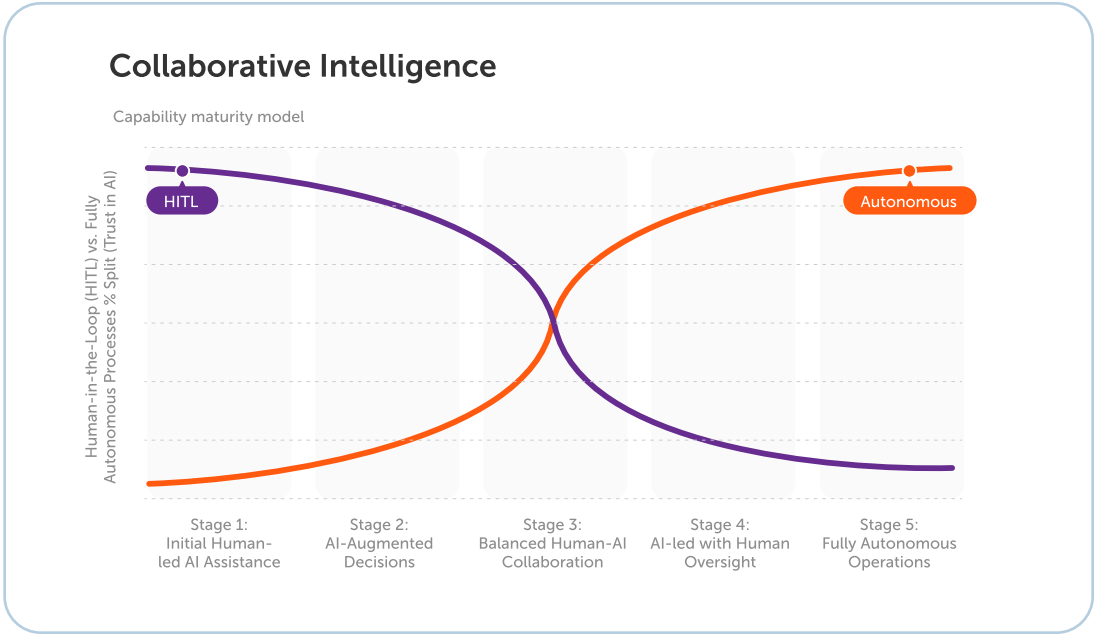
The CI-CMM serves as a critical framework for organizations aiming to harness the full potential of collaborative intelligence. The model provides a structured pathway for assessing, deploying, and scaling the integration of AI within business processes while ensuring technology aligns with strategic business goals.

The CI-CMM framework supports technological integration and emphasizes the importance of developing human skills to work alongside AI systems effectively. As organizations create a seamless partnership between AI and humans, the CI-CMM framework is the roadmap for navigating the complexities of AI adoption and the application of its benefits, from initial experimentation to fully autonomous operations.

Five stages of capability maturity

The CI-CMM outlines the evolutionary journey organizations take as they infuse AI into their operations. From the initial stage, where AI serves as a basic support tool with heavy human oversight, through to the final stage, which is fully autonomous operations, this framework maps out the progressive enhancement of collaborative intelligence.

Graphically, as shown below, progress along the CI-CMM spectrum occurs as workers gain more trust in AI capabilities. With more trust, humans are less necessary in the loop to oversee and validate AI decisions and actions. As an organization infuses AI into processes, workers see the impact and gain trust in the outcomes. Then, more autonomy is possible, especially as workers become more comfortable collaborating with AI and risk tolerances increase.



Each stage represents an increasing level of organizational readiness (people), operational capability (processes), and technological sophistication (systems), marked by increasing degrees of AI autonomy and decreasing levels of human intervention. It's a spectrum of AI learning, doing, and infusing such that:

- As organizations increase maturity, people gain a safe space to learn, try, fail, and retry as they learn the potential of AI.
- As people become more AI-adept, they need intuitive yet robust AI platforms with guardrails and governance to unleash more AI potential while adapting to AI innovations easily.
- With that foundation set, people can continue infusing AI into processes incrementally until entire organizations are transformed and given new, AI-infused potential.

Organizations that increase maturity along this spectrum gain a competitive edge, engaged workforce, and AI-infused processes that drive efficiency, productivity, and growth.

Understanding these stages is crucial for organizations looking to strategically advance their AI implementation, as the model provides a clear roadmap for developing both the technical infrastructure and human capabilities needed for successful AI infusion. This model can be used to assess the current state of AI maturity and as a guide for planning a journey toward more sophisticated forms of collaborative intelligence.

Stage 1: Initial human-led AI assistance

At this foundational stage, organizations begin by leveraging basic AI tools to support human decision-making. This stage is characterized by significant human oversight and the use of AI in data analysis tools, enhanced software, and decision support systems.

An example is the use of chatbots in customer service to handle simple inquiries, freeing human agents to address more complex issues. This is the learning, experimentation, and exploration stage.

Characteristic	Human-led AI assistance with basic automation, minimal integration of formal process frameworks
Use Cases	Customer support chatbots, help desk triage automation, employee benefits self-service
AI Platforms	Basic chatbots and support ticket integrations, static decision support systems, predefined responses
AI Skills Required	Entry-level understanding of AI tools, definitions, and capabilities, with simple interface monitoring

Stage 2: Emerging collaboration from AI-augmented decisions

In this stage, AI enhances, improves, and accelerates human decision-making by providing valuable insights. Organizations begin to adopt more advanced analytics platforms and machine learning tools to augment decision-making processes.

For example, financial institutions use AI to analyze market trends and suggest investment opportunities so analysts can make more informed decisions.

Characteristic	Adoption of AI-powered productivity tools, integration of process framework and playbook
Use Cases	Enhanced chatbots, ticket routing based on sentiment, playbooks to flag escalations and exceptions
AI Platforms	Advanced analytics platforms, machine learning tools
AI Skills Required	Familiarity with augmented AI tools and early process frameworks

Stage 3: Balanced collaboration between humans and AI

At this stage, humans and AI collaborate seamlessly, sharing decision-making responsibilities and engaging in mutual learning as they collaboratively complete end-to-end processes and work towards achieving larger goals. Organizations deploy integrated AI systems, predictive analytics, and collaborative tools to enable this collaboration.

In healthcare, for example, AI assists physicians by analyzing patient data to recommend customized and personalized treatment plans. The physicians have more time to thoroughly review the recommendations and then provide the final decision based on their expertise.

Characteristic	Seamless AI-human decisions, embedded frameworks and governance, basic AI orchestration
Use Cases	Validate responses, integrated dashboards with AI-enriched data, solution auto-suggestions
AI Platforms/ Systems/Tools	Integrated support with natural language processing, collaborative tools, contextual data
AI Skills Required	Intermediate analytics and process proficiency, playbook application, managing AI-human collaboration

Stage 4: Advanced collaboration, AI-led with human oversight

In this stage, AI takes the lead in providing information and executing processes but relies on human supervision, also called human-in-the-loop (HITL). This enables a high level of process autonomy while keeping humans involved in critical decisions.

In manufacturing, for example, AI autonomously manages production lines while human oversight ensures quality control and anomaly mitigation. In logistics, AI optimizes inventory and supply chain routes and schedules while human managers oversee compliance and strategic alignment.

Characteristic	AI leads routine support interactions, robust AI governance, enhanced orchestration
Use Cases	Fully autonomous ticket resolution, proactive exception handling, automated task completion
AI Platforms/ Systems/Tools	Predictive analytics, exception management, AI governance, HITL tools
AI Skills Required	Advanced governance, risk, and oversight skills, autonomous ops monitoring and optimization

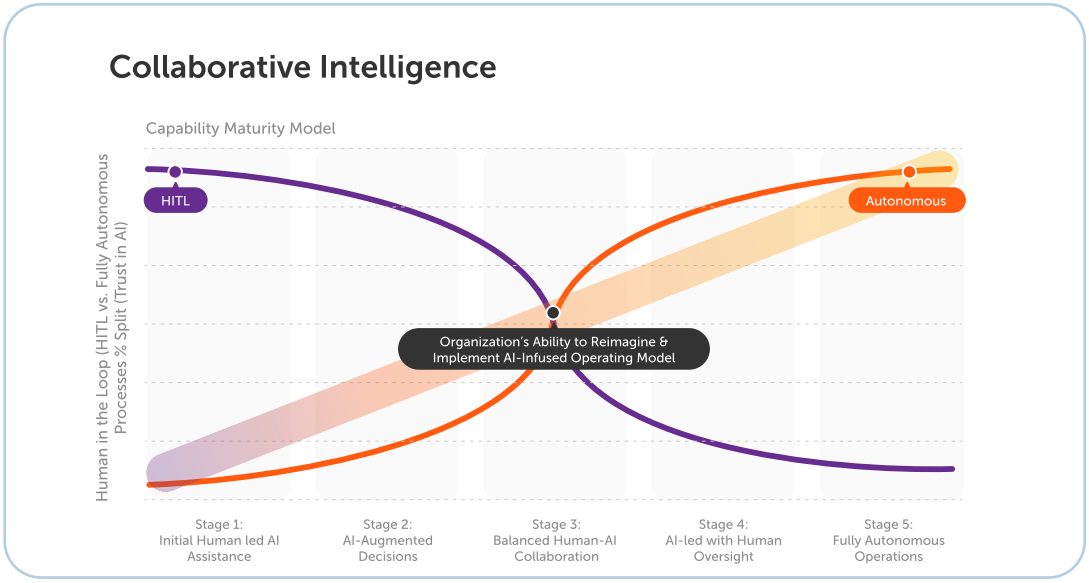
Stage 5: Autonomous enterprise with fully autonomous operations

At the most mature stage, operations function independently. Self-learning AI platforms and autonomous decision-making systems manage and govern processes with minimal human intervention. That frees humans to focus on more strategic, cognitive tasks, decisions, and processes. AI agents will make decisions and solve problems instantly in the background.

For example, a retailer uses AI to manage entire store operations, from inventory to customer service, without human input. Humans will then focus on in-store and in-person processes, as well as AI governance, to design, create, test, deploy, integrate, monitor, and improve AI-driven processes.

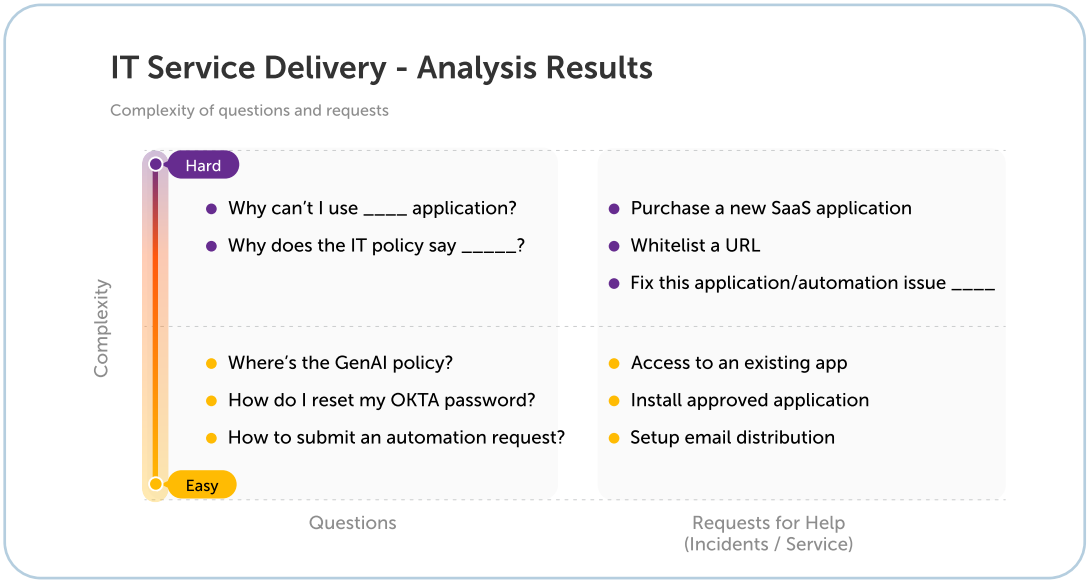
Characteristic	Fully autonomous support operations, self-learning systems, robust process and governance frameworks
Use Cases	End-to-end query resolution, real-time predictive maintenance, personalized responses
AI Platforms/ Systems/Tools	Autonomous AI platforms, self-learning support, fully integrated orchestration, frameworks, and governance
AI Skills Required	Deep expertise in AI governance, full lifecycle management skills, strategic oversight mindset

The CI-CMM above guides AI-human collaboration and process integration and emphasizes the development of the human skills essential for effective collaboration with AI systems. AI is poised to reshape work. Organizations that move up this maturity model quickly will realize the benefits ahead of competitors and to the benefit of customers and stakeholders.



Putting the CI-CMM to work in increasingly important processes

All organizations have low, medium, and high-risk processes. Automating low-risk processes is typically the first step for organizations, and for good reason. If AI considers an incoming level 1 IT helpdesk support ticket a level 2, for example, it's easily remedied with a couple of clicks from a human support agent. The risk, cost, and governance impacts are virtually nil.



On the contrary, it's likely risky and highly complex to infuse AI into automations that transfer large sums of money or dictate patient treatments without HITL. The potential risk, cost, and governance impacts are just too great.

However, as organizations move up the CI-CMM spectrum, higher-risk processes will be automated out of necessity and maturity. Consider this a second dimension, where the CI-CMM is a spectrum of AI learning, doing, and infusing, and process risk is a spectrum as follows:

Execution of Work in the Autonomous Enterprise

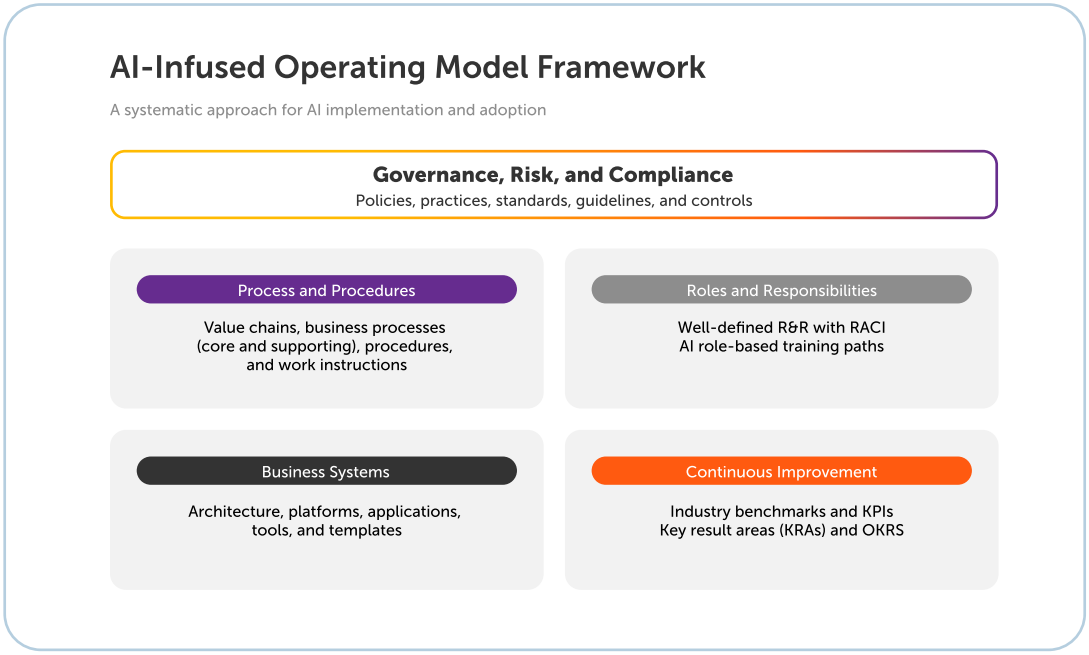
- Low-risk/complexity processes expected to be totally autonomous,
- Medium-risk/complexity processes with the potential to have some HITL, and
- High-risk/complexity processes that will always have HITL, at least considering current technologies.

As an organization matures in CI-CMM, infusing more prescriptive AI technology will increase governance and compliance, allowing for higher-risk, higher-complexity processes to be automated. Eventually, AI-infused technologies like process orchestrators and exception-resolver agents will solve problems as they happen so end-to-end processes can continue uninterrupted yet retain appropriate governance, compliance, and risk management.

The stages of CI-CMM can be mapped with the risk complexity to show how increasing maturity enables organizations to infuse AI into increasingly risky and complex processes. Along the way, more lower-risk processes can be infused with AI to eventually reach full autonomy.

Part II: The operationalization of AI

The CI-CMM aims to guide organizations along the AI journey, but it is process, domain, and industry agnostic. In the AI era, every process in every sector is a potential candidate for collaborative intelligence. Collaborative intelligence, therefore, requires a shift in how organizations operate. But enterprises require procedures, roles, systems, and continuous improvement to operate effectively at scale.



AI governance, risk, and compliance

Governance, risk, and compliance (GRC) are the backbone of an AI strategy, ensuring systems are effective, ethical, and aligned with regulatory standards. GRC is facilitated through policies and procedures, enforced with controls, and measured through compliance.

Establishing robust policies for AI use must be aligned with industry standards such as ISO and NIST for consistency and reliability. Ethical guidelines are also crucial for responsible AI deployment, defining considerations like fairness, transparency, and accountability for the organization's reference.

Adhering to data protection regulations is imperative. Some of the most critical regulations related to AI include:

- The European Union's General Data Protection Regulation (GDPR) and Artificial Intelligence Act
- The United State's Executive Order on the Safe, Secure, and Trustworthy Development and Use of Artificial Intelligence and American Privacy Rights Act of 2024 (Draft)

Identifying and mitigating AI risks, such as biases and unintended consequences, is vital to risk management.

AI roles and responsibilities

Operationalizing AI requires an adjustment to organizational structures. New roles and responsibilities are required to manage, govern, and collaborate with AI, from the Chief AI Officer through to those implementing AI. Other roles will emerge to help train workers with the skills necessary to build, understand, and use AI solutions and engage with AI-driven processes. Combined, new teams and departments will coalesce to better focus on AI support needs.

Expect new roles to emerge, such as:

- **Prompt engineers** who craft and train others to craft effective AI prompts.
- **Knowledge base owners** who maintain organizational knowledge assets.
- **AI engineers** who build agentic workflows using low-code or no-code AI platforms.
- **Business analysts/process champions (AI)** who understand the capabilities and the limitations of AI to reimagine and document AI-infused business processes.
- **AI infrastructure specialists** who manage AI platforms and large language models (LLMs) to optimize integrations and functionality.
- **AI ethicists** who bridge the gap between technology and human values.
- **AI trainers** who ensure teams can take on the increased demand for data literacy, critical thinking, and adaptability.

These new roles are crucial in turning AI capabilities into business solutions but may fall outside of traditional hierarchies, potentially reshaping organizational structures. AI infusion teams—with members from IT, data science, and business units—will facilitate AI adoption and encourage related innovation.

Of course, change management will be a large part of the operationalization of AI. Expect expanded and new change management needs as workers adjust to transformed processes and reimagined goals.

Processes and procedures

While AI is taking over end-to-end processes, effective AI infusion efforts will require their own well-defined processes and procedures to manage technology lifecycles and standardize deployments and usage.

- Lifecycle management covers the creation, deployment, use, maintenance, and support of AI tools, whether created in-house or licensed from a third party. This extends to custom AI models and the adaptation of existing AI solutions.
- Creating and enforcing standard operating procedures ensures teams and workers use consistent methods across AI usage, deployments, and other activities. These standardization efforts can improve efficiency and reliability.

Successfully infusing AI across an organization requires clear processes for managing the complete technology lifecycle from creation through deployment and maintenance. Standardized procedures ensure consistent usage and reliable results.

Platforms, systems, and tools

Successful AI transformation requires tools that fit an organization's unique needs and goals. But, since AI is such a fast-moving sector, and goal priorities may shift between innovation, efficiency, productivity, and more, flexibility is crucial. As organizations embrace AI, they must choose tools that meet immediate needs and can scale with future demands.

Evaluating AI tools requires careful consideration of scalability, security, and interoperability. Seamless integration with both existing and future systems is crucial, making these choices highly strategic. AI tools and vendors should align with an organization's long-term AI vision. The right tools can propel innovation and growth, while mismatched solutions may impede progress, incur delays and costs, and more.

Interoperability with current systems is of obvious importance, but AI systems must also align with current processes and workflows. Organizations should address process bottlenecks, establish integration protocols that minimize workflow disruptions, and inform workers of changing process expectations.

Continuous improvement and change management

As roles, processes, systems, and other integral components of an organization shift to an AI-infused operating model, workers will bear the brunt of the changes. Again, change management efforts are crucial to operational success, but organizations must also consider and nurture the human element with communication, skills development, and related cultural shifts.

Change management extends beyond just humans. Organizations must assess the holistic impact of AI-infused processes and technologies, from vendor management and internal communications to data infrastructure and use case returns on investments.

Putting AI to Work - Challenges

AI Operationalization Hurdles

AI Landscape Complexity

- **Vendor Management:** Managing the proliferation of AI vendors, models, and tools available in the market.
- **Avoiding Analysis Paralysis:** Avoiding analysis paralysis caused by the overwhelming number of options and technologies.
- **Interoperability:** Ensuring interoperability and integration of various AI solutions within the existing tech stack.
- **Staying Updated:** Keeping up with rapid advancements and changes in the AI landscape to make informed decisions.

People

- **Awareness:** Raising awareness and understanding of AI capabilities and limitations among employees.
- **Upskilling:** Upskilling staff to adapt to new AI-driven workflows and technologies, including prompt engineering.
- **Mindset Shift:** Shifting the organizational mindset from traditional processes to AI-driven approaches.
- **Terminology:** Navigating the evolving terminology and concepts, such as 'agents' versus 'processes,' to ensure clear communication.

Security / Data

- **Data Privacy:** Ensuring data privacy and protection, including safeguarding sensitive information and AI prompts.
- **Secure Infrastructure:** Implementing robust and secure infrastructure to prevent unauthorized access and cyber threats.
- **Regulatory Compliance:** Managing compliance with data protection regulations and industry standards.
- **Vulnerability Management:** Addressing potential vulnerabilities in AI models and systems to prevent data breaches.

Use Case Identification

- **High-Impact Use Cases:** Identifying high-impact use cases that maximize the benefits of generative AI.
- **ROI Evaluation:** Evaluating the return on investment (ROI) of AI projects compared to traditional methods.
- **Strategic Alignment:** Prioritizing use cases that align with strategic business goals and offer significant value.
- **Complexity Management:** Avoiding the selection of use cases that are too complex or not well-suited for AI solutions.

The critical role of change management

Infusing operations with AI solutions is a profound organizational transformation that requires significant changes to align people, processes, and technologies. Overall success depends on incremental progress as an organization moves from ideation to implementation to innovation when operationalizing AI.

Typical change management best practices are important: assessing the level of change, using tailored approaches, encouraging engagement, providing ample training, and more. Communication is the key to reducing uncertainty, building trust, and ensuring alignment. Engaging workers further strengthens buy-in to the need for AI-infused operations.

Early AI adoption offers a competitive edge by allowing organizations to refine strategies and adapt to changes swiftly. Those that actively involve workers in transformations will have the advantage.

Of course, humans are, ironically, the key to successful AI infusion. Organizations must consider employee expectations for bringing productivity-enhancing tools into daily routines. With just under 40% of adults already using generative AI and nearly 1 in 9 workers using generative AI daily, workers will expect the technology to extend into work processes quickly. Ways to accelerate AI adoption and infusion include:

- **Establishing feedback loops** allows for fast and more effective iterations of AI deployments and usage. They also enable workers to adapt quickly to changes, whether internal system and process modernizations or external market and competitive shifts.
- **Adjusting training programs** to an AI-infused operating model ensures humans have the right skills to work alongside AI. Investments in workforce development must be considered as valuable as investments in AI itself.
- **Creating a culture of continuous learning** enables workers to be more agile and more accepting of AI and other operational transformations. Exploration and experimentation are also key components of a learning culture and can improve the impact of using AI-infused tools.

AI also brings about new ethical and social implications, and organizations must address human concerns about job displacement, equity, and inclusion. Visible and ample reskilling and upskilling programs ensure worker readiness and signal the critical need for humans with AI-infused skills. Making those programs easily accessible to all workers provides reassurance that AI enhances inclusion in the workplace.

Challenges to creating the autonomous enterprise

Building on the transformation of workforce dynamics and human potential, organizations are now moving towards becoming autonomous enterprises. This evolution represents a significant shift in how businesses operate by using AI to minimize human intervention while maximizing efficiency and adaptability.

An autonomous enterprise is defined by its ability to optimize, make real-time decisions, and proactively resolve issues within processes, all without human intervention. Autonomous enterprises continuously learn and adapt to changing conditions, too. Organizations that improve continuously, decide and act quickly, and anticipate and resolve issues before they escalate will outperform those that retain traditional systems of human-based work.

Collaborative intelligence—humans working alongside AI—is the precursor to the autonomous enterprise and advances in complexity and AI infusion as the CI-CMM moves from stages 1 through 4. A final-stage enterprise with fully autonomous operations is characterized by AI systems operating independently but within a framework of human-defined goals. This includes deploying AI systems capable of autonomous and real-time decision-making and establishing oversight to ensure alignment with organizational values and objectives.

Maturing an organization through the collaborative intelligence journey is not without challenges, however. Technical complexity, governance, and ethics—all mentioned previously—can derail even the best-equipped and most-prepared organizations.

- Implementing advanced AI capabilities requires a robust infrastructure and skilled personnel. Organizations must invest in scalable infrastructure that can support AI development and deployment. Building a workforce with the necessary skills to manage and operate AI systems is also crucial.
- Robust governance frameworks are essential for managing the risks associated with autonomous systems. Establishing clear policies and procedures for AI deployment and operation is vital for ensuring compliance with regulatory requirements and ethical standards is paramount.
- Ensuring AI decisions align with organizational values and legal and ethical requirements is crucial to maintaining trust. Developing AI systems that respect privacy and data security and addressing potential biases in AI algorithms is the only way to ensure fairness and equity.

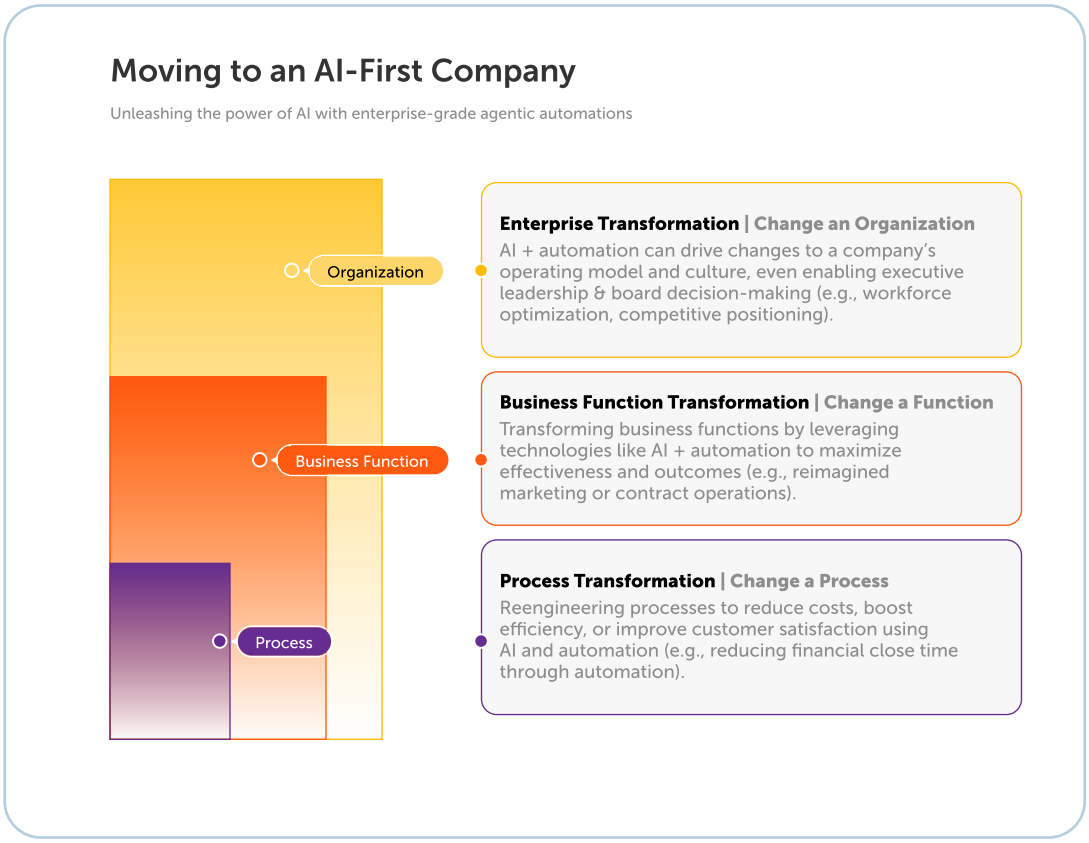
Moving from theory to work

The CI-CMM framework provides a universal roadmap for infusing AI across industries, domains, and processes. Nearly any business function can benefit from collaborative intelligence, but success demands more than just technology. Organizations must restructure operations, establish clear procedures and roles, and embrace a culture of continuous improvement to fully realize the tangible benefits of human-AI collaboration at scale.

Part III: Collaborative intelligence at work

Putting collaborative intelligence to work is where the critical journey of creating an autonomous enterprise scales the infusion of AI across the organization. A structured approach begins with assessing readiness and defining measurable objectives, then progresses through strategic planning, competency building, technology implementation, governance, and change management.

By following these best practices and learning from the examples below, organizations can ensure a seamless transition toward fully AI-first operations while aligning technology with overarching business goals.



From ideation to implementation

Creating an autonomous enterprise requires a thoughtful, methodical, and comprehensive approach to AI infusion. It begins with a readiness assessment and quickly moves to strategic planning, competency building, technology deployment, governance, and change management. These critical steps and considerations are best practices for organizations embarking on this transformative journey.

01 Achieving readiness

Before embarking on the CI-CMM journey to autonomy, organizations must define clear objectives and assess readiness to set out to achieve those objectives.

Establishing clear, measurable objectives aligned with existing and planned business strategies helps keep AI efforts focused and contributing to goal attainment. Using the SMART approach—keeping objectives specific, measurable, achievable, relevant, and time-bound—ensures objectives guide implementation and progress can be easily measured and reported.

Once goals are set, organizations can evaluate existing capabilities and identify gaps that may block goal attainment. Analyzing technical infrastructures, workforce skills, and business processes will identify areas for improvement and eventual opportunities to infuse AI.

Remember that technology alone will not drive outsized growth; only a combination of people, processes, and technology will. In fact, Accenture found that prioritizing people along with technology can increase productivity by 11% versus 4%. Furthermore, the firm found that involving humans improves trust, transparency, and speed of reinvention.

02 Developing a strategic plan

Preparation is crucial to any large initiative. The CI-CMM is no different, and a well-crafted plan is essential for strategic success.

A roadmap must be created to outline phases, milestones, and resource needs during the journey. It must detail the process of moving from the current state to AI-infused autonomous operations, including time expectations, key metrics to track and related goals, and specific roles and resources required and their expected starting and ending date targets. The roadmap also serves as a guide for stakeholders as they gauge investments and expectations along the way.

As stakeholders get more information and become more involved in the success of the CI-CMM, securing their commitments is crucial. That includes gaining approvals and commitments from leadership and key personnel, too. Communication is key. Articulating and gaining buy-in to the vision and benefits of AI infusion is foundational to ensuring ongoing and active participation.

03 Building competencies

Building the right competencies and fostering a culture of innovation will ensure AI-infused processes and technologies are used to their fullest capabilities and for maximum value.

Training programs covering AI technologies and applications help workers become comfortable with new technologies. These can range from simple usage to technical and developer skills to more general data literacy, AI ethics, and governance topics.

Training also promotes cultural transformation as workers recognize that sustainable change requires enhanced skills and adaptability. By building a culture that embraces change from within, workers will be more accepting of change, experimentation, and continuous improvement initiatives.

Unfortunately, despite nearly all people (94%) saying they're eager to learn and work with generative AI, just 5% of organizations are actively reskilling their people at scale, according to Accenture.

04 Choosing and implementing AI-infused technologies

The right—or wrong—technologies will make or break the CI-CMM journey. Organizations should consider, evaluate, and select AI tools based on how their functionality and scalability align with overall goals.

A best practice is to deploy pilot projects to test AI-infused applications in controlled environments. This testing reduces risks before scaling and may help avoid mistakes and missed opportunities.

The AI-infused tool selection process should also consider the democratization of AI and how individual tools will contribute to that end. Safe and intuitive access to AI empowers workers and will encourage faster adoption and more widespread usage for greater productivity and inclusivity, which fosters a culture of innovation.

05 Establishing governance

Robust governance and ethical frameworks are essential for responsible AI use, ensuring that AI technologies are deployed in a manner that aligns with organizational values and societal expectations.

Thorough guidelines for AI usage must be created to underpin these governance and ethics efforts. Frameworks such as:

- NIST AI Risk Management Framework (NIST AI RMF) provides a structured approach to identifying and managing risks associated with AI, focusing on principles such as transparency, fairness, and accountability.
- ISO/IEC 42001 Artificial Intelligence Management System offers guidelines for AI management systems, promoting consistency and reliability in AI applications.

Regular audits will also help to ensure adherence to standards and regulations. Organizations should establish mechanisms for monitoring and enforcing compliance with AI governance policies.

06 Managing change

Change management has been discussed repeatedly here. But, effective change management ensures smooth transitions and stakeholder buy-in. This process is crucial for organizations aiming to achieve autonomy with AI.

Applying models like ADKAR (awareness, desire, knowledge, ability, reinforcement) facilitates structured change by helping organizations systematically address the human side of change and ensuring employees are prepared and equipped to embrace new AI-infused processes.

Again, communication is crucial. Keeping all stakeholders informed and engaged throughout the transformation ensures transparency and fosters trust, which reduces resistance and enhances collaboration. Focusing on the benefits also helps workers get excited about the change. For example, Accenture found that infusing generative AI into sales processes increased salespersons' productivity, confidence, and impact by more than 30%.

Case studies and examples

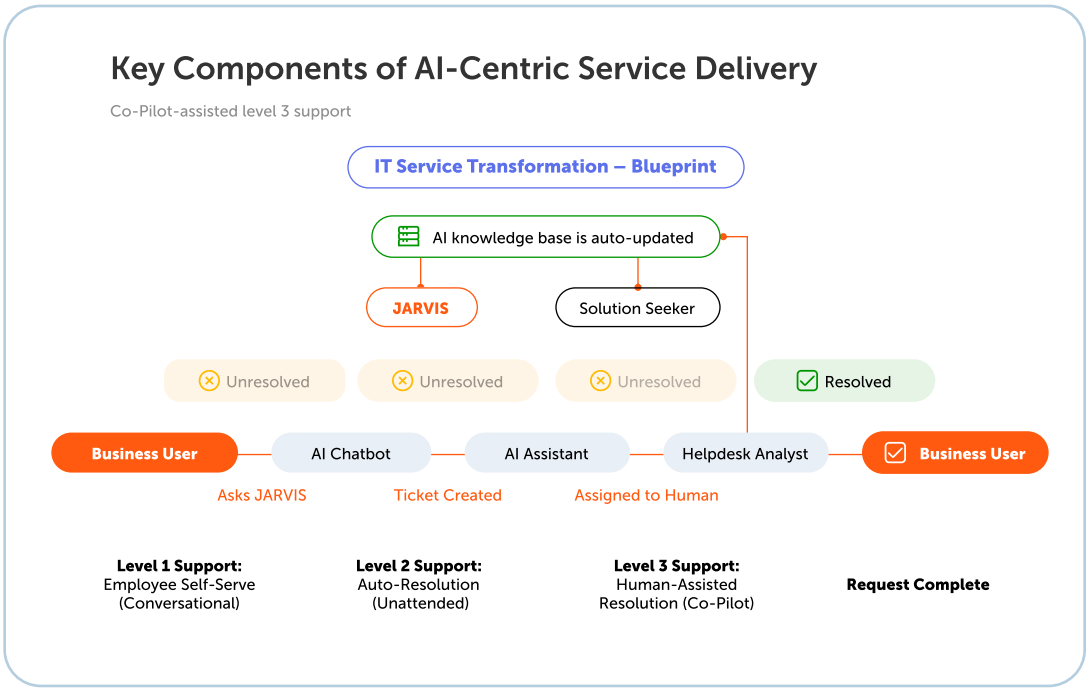
In the ever-evolving landscape of AI, real-world applications provide a window into the transformative power of these technologies. Case studies can provide a practical understanding of how AI agents are actively reshaping an organization's operations and driving innovation. Each case study provides a unique perspective on leveraging AI to enhance efficiency, foster creativity, and achieve strategic growth.

Note that all of these cases are in active use at Automation Anywhere.

Case #1: AI-infused support provides a blueprint for enterprise transformation

Automation Anywhere's internal AI-infused journey began by tackling prevalent IT challenges such as high support ticket volumes, employee engagement, and the need for scalable, cost-efficient solutions. By infusing generative AI into existing systems, the company developed a comprehensive solution that revolutionized the IT helpdesk experience.

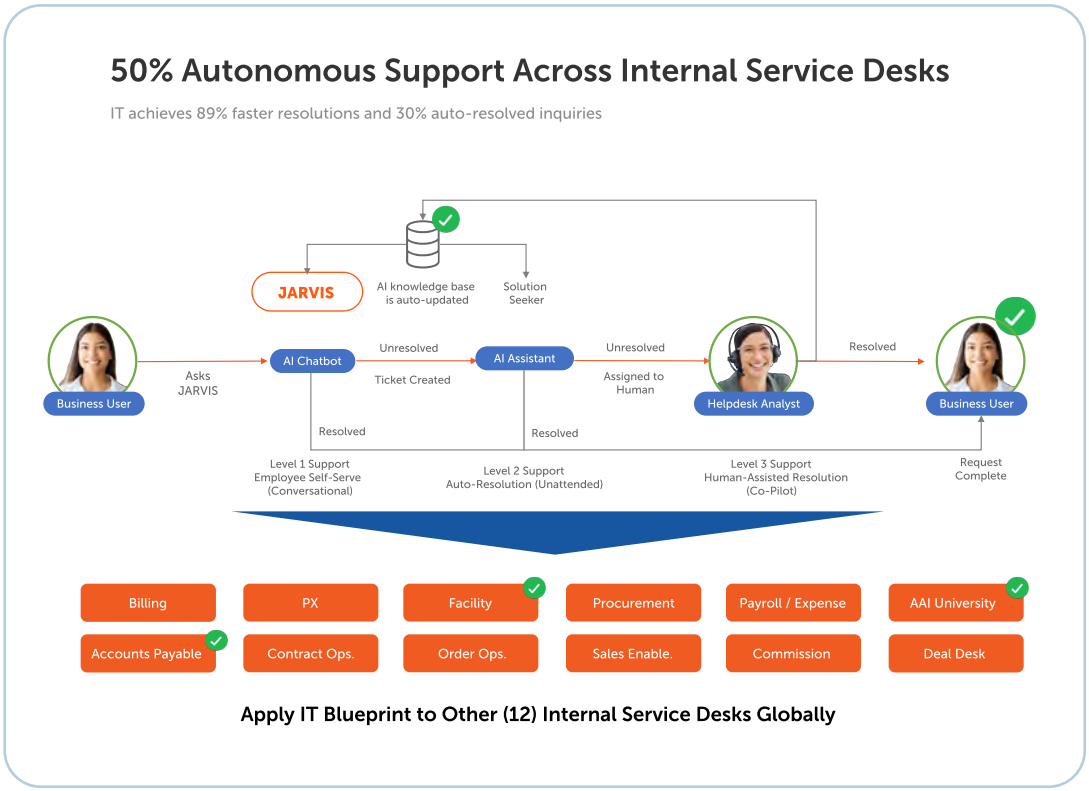
JARVIS is the company's self-serve resolution AI chatbot and plays a pivotal role in this transformation. Unlike typical chatbots, JARVIS operates across all technology stacks, performing tasks and answering questions autonomously. If an inquiry is unresolved, the Solution Seeker AI assistant autonomously addresses incidents without human intervention by pulling information from the "IT Brain," a knowledge base of historical support tickets and solutions. For more complex requests, issues are routed to human technicians.



"We're really proud to say that 30% of our IT Ops staff have been redeployed to transformation efforts instead of 'RUN' work," noted a senior executive, highlighting the significant shift in operational focus. This reallocation of resources has led to an 89% faster resolution of issues and 30% of inquiries being auto-resolved, demonstrating the profound impact of AI on IT service delivery.

This AI-infused IT support process also empowers employees to resolve inquiries independently, reducing the reliance on support tickets. Moreover, this success underscores AI's substantial impact on IT service delivery.

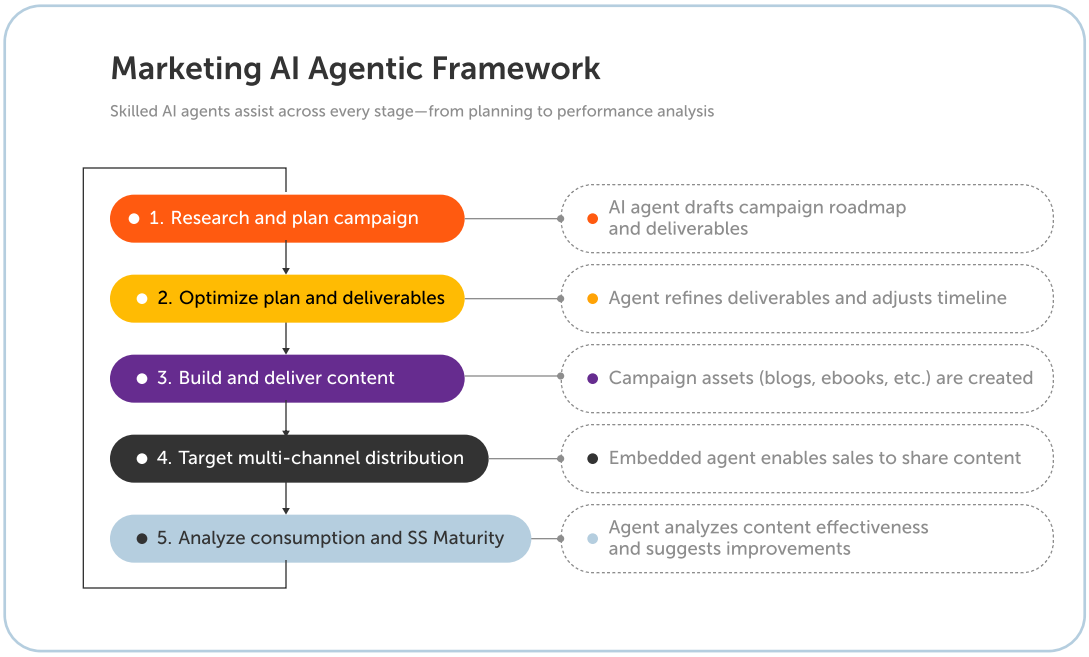
"We had an epiphany: why is this approach only applicable to IT? We have service requests all over our company!" reflected a senior leader, emphasizing the broad potential for similar AI-infused processes across various business functions.



Case #2: AI-infused digital marketing campaign strategist expands business function transformation

In the realm of digital marketing, Automation Anywhere has harnessed the power of AI agents to revolutionize marketing campaign strategies and achieve unprecedented levels of engagement and efficiency.

The company uses AI agents to streamline the planning and execution of marketing campaigns. By analyzing consumer behavior and preferences, these AI-infused systems craft tailored messages that enhance customer engagement. This shift not only optimizes resource allocation but also ensures that marketing efforts are aligned with business objectives.



"Our AI-driven approach has led to a 50% increase in campaign reach and a 30% improvement in conversion rates," stated the head of digital marketing.

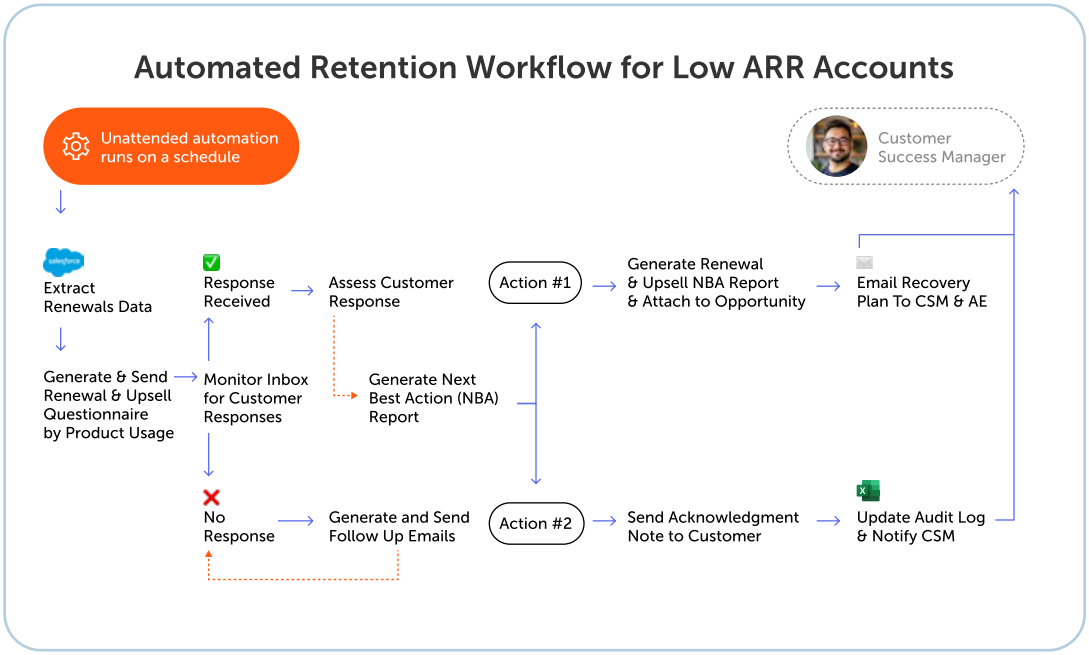
Furthermore, the use of AI in monitoring and adjusting campaigns in real time has significantly reduced the time taken to respond to market changes.

"With AI, our team can now pivot strategies in a matter of hours rather than days," remarked a senior marketing strategist.

Case #3: AI-infused renewals risk management automates retention of smaller accounts

Automation Anywhere has implemented an AI-infused strategy to increase the retention of low Annual Recurring Revenue (ARR) accounts. This initiative aims to autonomously reduce the drop rate of these accounts by 50%.

The process begins with the Renewals Customer 360 AI Agent, which runs on a monthly schedule. The agent calculates key metrics for renewals due over the next three months and creates a personalized multiple-choice questionnaire for each account. The agent collaborates with the Customer Reach Out AI Agent, which initiates communication, manages follow-ups, and analyzes customer sentiment to decide the next best action or necessary follow-ups.



"Our AI agents have transformed how we manage low ARR accounts, providing insights that were previously inaccessible," noted a project lead.

These agents play a crucial customer retention role by analyzing customer data, segmenting customers based on criteria like ARR and usage patterns, generating personalized questions, and managing the communications process—all autonomously and customized for each customer.

Embracing the autonomous shift

The transformation towards collaborative intelligence and autonomous enterprises is not just an evolution but a revolution, reshaping the very fabric of work and organizational dynamics.

Organizations can seamlessly infuse AI technologies, optimizing processes and unlocking human potential by adopting an AI-infused operating model. Effective change management is a pivotal component of this journey, which empowers organizations to adapt swiftly and maintain a competitive edge.

Organizations that embrace AI-infused transformation and follow CI-CMM guidelines stand at the forefront of innovation, ready to navigate the complexities of an AI-driven economy and lead their industries with confidence and foresight.

This paper reflects our current thinking on collaborative intelligence and autonomous enterprises. We welcome your feedback as we continue to refine this vision. For questions, clarifications, or suggestions, please contact:

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