

MEMO

January 2026

Assessing the return on investment of generative and agentic AI solutions



Cigref Memo

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INTRODUCTION

As companies and public administrations conduct large-scale experiments and seek tangible gains, measuring the return on investment (ROI) of artificial intelligence solutions is becoming a major challenge for digital departments. As with any new technology, they seek to assess the value created by comparing the expected benefits with the associated costs. However, this assessment requires moving beyond traditional accounting approaches.

AI technologies can be divided into three main categories: traditional AI, which revolutionises processes with unrivalled precision by enabling the use of vast amounts of data to perform tasks beyond human capabilities (predictive maintenance, forecasting, optimisation); generative AI, now widely adopted to simplify and automate various everyday tasks through a multitude of specialised assistants (information search, document production, synthesis); and agentic AI, which aims to mimic human reasoning to autonomously explore complex problems, execute actions and make decisions. These different AI technologies have the potential to increase productivity, improve organisations' digitised processes and promote the development of new innovation-based business models, but **this note focuses more specifically on generative AI and agentic AI.**

Measuring the value created by a generative AI or agentic AI solution is complex for several reasons. First, there is currently no universal metric for quantifying this value. Traditional calculation methods are unsuitable for transformative AI. Attempting to justify a generative AI project using the same tools as a server migration leads to a dead end. AI is not simply a cost optimisation tool; it represents a real **investment in the organisation's capacity for innovation.**

Furthermore, identifying and assessing the real impact of AI technologies in relation to other factors at play remains difficult, as these technologies do not act in isolation. Their use requires **organisational transformation** to facilitate access to data, streamline the flow of information and promote the transparency of internal processes. In order to take full advantage of the opportunities offered by generative and agentic AI, organisations must put in place specific prerequisites (data quality and governance, tools, security, compliance) and structured change management that can contribute to value creation. It then becomes difficult to distinguish between the value created by the use case itself and that resulting from the organisational transformation required to adopt the technologies.

This is why several companies and administrations, members of Cigref, have embarked, with the support of experts and practitioners, on a reflection on methods for evaluating the return on investment of AI solutions. By sharing best practices and initial feedback, **this note aims to contribute to a more rational and realistic assessment of the impact of generative and agentic AI** on the performance and results of organisations.

1 QUANTIFYING THE GAINS OF AI TECHNOLOGIES

1.1 HORIZONTAL AI, VERTICAL AI

First, it is essential to distinguish between **horizontal AI**, which is intended for everyone, and **vertical AI**, which is designed to meet specialised needs, as these two main types of generative and agentic AI require different strategies.

Horizontal AI is aimed at all employees and raises a major challenge in terms of **large-scale change management**. Various studies on horizontal AI agree that "assistants" – which summarise reports, manage documents, classify content, provide real-time translation, etc. increase employee productivity and well-being, while simplifying and automating internal processes. Several studies estimate that the use of these types of tools saves more than 50 minutes per day for certain profiles. However, beyond well-being at work, does this time saving constitute a tangible benefit for the business itself? How does it impact the bottom line? It all depends on how the freed-up time is used: it can be reinvested directly in the business, or it can be devoted to greater collective intelligence (informal exchanges, collaborative work), personal training, improving the advice provided, or even generating new sales, particularly in customer support.

This is why some companies now distinguish between hard savings, which are tangible savings that can be measured directly, quickly and easily in an income statement, and soft savings, which are indirect savings that are more difficult to quantify but offer future gains in the form of indirect improvements (increased efficiency, reduction in errors, acceleration of workflows, etc.).

Vertical AI, on the other hand, is part of specific **business processes** (finance, supply chain, legal, marketing, maintenance, etc.). Like horizontal AI, it requires acculturation and training of teams, as its value lies primarily in deep **co-creation** with business lines to fuel **optimisation** or **disruptive innovation projects**. In some organisations, work on these complex issues is carried out in agile mode by the digital department in collaboration with multidisciplinary teams.

In parallel with the deployment of horizontal and/or vertical AI, organisations are seeking to engage employees by using the various levers at their disposal. They believe that developing skills over the coming years will enable them to harness the full potential of AI technologies. The Cigref information and news note "[Preparing organisations for skills changes over the next 10 years](#)" outlines best practices for **adapting and anticipating the HR needs** of this technological transformation.

1.2 AN APPROPRIATE ASSESSMENT FRAMEWORK

Given the specific characteristics of generative and agentic AI, measuring the value of an AI solution is a challenge that goes beyond simply evaluating ROI: it involves **defining a new framework tailored** to each organisation in order to **understand** and **quantify the multifaceted impact of AI**.

This framework must, of course, take into account the **obvious and specific costs associated with AI, which are easily identifiable** – engineering, infrastructure, cloud, licences, models, inference and data

access – but also the **hidden costs of transformation**. According to some estimates, the latter could represent an additional burden equal to 30-40%¹ of generic costs. These include risk management, the establishment or modification of governance, security and compliance, change management, talent development and sometimes recruitment, the use of external services, transformation monitoring, process redesign and implementation, as well as interoperability and research and development. In order to have a real impact, **AI technologies need to be deeply integrated into business processes**.

Given the complexity of assessing the costs involved in fully exploiting the potential of generative and agentic AI technologies, some companies and public administrations are proposing to **focus primarily on the innovation and value creation that these technologies make possible**. Use cases can thus be compared, selected and prioritised without losing sight of the overall organisational transformation costs associated with these generative or agentic AI projects.

1.3 AN ESSENTIAL ORGANISATIONAL TRANSFORMATION

The successful integration of AI technologies into organisations' business processes is based on three pillars: intelligent and structured **data** management, a coherent **AI technology stack** that is interconnected with the existing infrastructure, and accessible **software** that ensures agile consumption of functionalities. This requires each organisation to first carry out the necessary industrial and organisational transformations, adapt project management or product development by integrating data-driven management, and implement ethical and environmental principles aligned with its values, while taking into account country or continent plate regulations.

This is why companies and public administrations have understood that it is essential **to involve all employees** in their transformation. They will all have a role to play in the short to medium term, and these new AI solutions represent opportunities for them as well as for the organisation. It is essential that they remain in control, that they are aware of the risks² and potential difficulties associated with their use, and that they have sufficient mastery of them to be able to transform business lines and value chains³. Ultimately, every business line is transforming to benefit from the potential offered by data and AI-driven management in a number of areas: governance (business, data, AI), human resources, technologies, ecosystems, business model (ROI over the timeframe defined by the strategy) and sustainability. Indeed, beyond productivity, it is **innovation** that is the real differentiating factor for organisations, enabling them to unlock the full value potential of AI. This requires a change in perspective: **moving from a tactical approach to a more strategic vision** of what a company could achieve.

¹ Assessment carried out by IBM in March 2025

² See Cigref's Niac [Recommendations on generative AI](#).

³ See Cigref's Niac [Feedback and best practices](#)

2 BEST PRACTICES AND FEEDBACK

In order to deploy AI with confidence and fully exploit its potential, companies and public administrations are implementing data and AI governance. By defining a clear, shared and appropriate framework, this governance promotes responsible adoption and stimulates innovation. Beyond regulatory risk (particularly for high-risk AI systems), it provides organisations with technological safeguards and observability tools for each use case. **Assigning a dedicated team of experts allows these AI solutions to be continuously adapted to a constantly changing context.** Many organisations choose to integrate data and AI governance with other forms of governance to ensure consistency. The Cigref report "[Instructions and tools for implementing AI governance](#)"⁴ offers best practices on governance.

2.1 PORTFOLIO MANAGEMENT APPROACH

By focusing on the value creation enabled by AI and innovation, and therefore viewing AI as an investment in their future capacity to innovate, some companies and public administrations are turning to a **portfolio management approach**. The idea is not to evaluate each use case in isolation, but to **manage a balanced portfolio of AI initiatives**, each with its own metrics for success. This constitutes a three-part evaluation framework: the foundations to be put in place, horizontal initiatives and vertical initiatives.

2.1.1 FOUNDATIONS

The foundations consist of the prerequisites mentioned above for fully exploiting the potential of generative and agentic AI technologies: modernising software to access the desired functionalities, establishing data governance and intelligent, structured data management to feed the models, and setting up an AI technology platform interconnected with existing systems. During this foundation stage, the ROI is indirect. The metric is not financial gain, but the time-to-market⁵ for future use cases, and risk reduction.

2.1.2 EVALUATION OF HORIZONTAL INITIATIVES

With assistants that enable employees to increase productivity and save time, calculating the contribution of horizontal AI seems simple (time saved x salary cost), but it is obviously misleading, masking the issue of reallocating this saved time to tasks with higher added value. This is why some companies have planned to measure the adoption rate of these tools and to use qualitative surveys to track the nature of employees' new activities (more time spent with customers, more creativity, more training, more collective intelligence, etc.). **However, the benefits of horizontal AI remain more strategic than financial.**

⁴ <https://www.cigref.fr/guide-de-mise-en-oeuvre-de-lai-act-mode-demploi-et-outils-pour-mettre-en-place-une-gouvernance-de-lia>

⁵ Time to market (TTM) represents the time between the design of a product and its release for sale, in other words, the market launch phase.

2.1.3 EVALUATION OF VERTICAL INITIATIVES

Vertical AI is integrated into key business processes: supply chain optimisation, discovery of new molecules, customer personalisation, etc. In such cases, the gains are direct and potentially massive. To assess them, an industrial company in the working group plans to work with each business unit to build a value driver tree for each use case. To do this, it starts with its strategic business objective (e.g., increasing margins by 2%) and breaks it down into operational levers on which AI can act (e.g., reducing demand forecasting errors by 10%). The company thus measures the impact of integrating generative or agentic vertical AI on existing business KPIs, rather than on IT metrics.

2.2 ELEMENTS AND INDICATORS TO CONSIDER

Before launching a generative or agentic AI project, it is important to **identify** the various **indicators used to measure the benefits and value** of the solution and then implement them so that **their progress can be monitored**. This monitoring makes it possible to better objectify the gains and assess the impacts at the company level.

During a collective intelligence workshop, the organisations present identified the main elements to be taken into account when assessing the real impact of generative and agentic AI on their results, in terms of both costs and benefits. This list presents a detailed typology of the benefits (operational, strategic, financial) and the various costs. It is not exhaustive and will of course be expanded as maturity is gained with the industrialisation of AI use cases.

Potential benefits	
Operational	
Productivity gains	<ul style="list-style-type: none"> - Automation of repetitive tasks or simplification of tasks or missions, reduction in error rates; - Reduction in the time required for a decision or task; - Improvement of production processes; - Reduction in project implementation times; - Support for operational decision-making; - Improved equipment availability (increased utilisation time thanks to reduced equipment downtime, anticipation of breakdowns, or better calibrated inspections).
Optimisation of implementation time	<ul style="list-style-type: none"> - Development; - Training; - Optimisation of business processes and workflows; - Integration.
Miscellaneous	<ul style="list-style-type: none"> - Proactive detection of fraud and anomalies.

Organisational	
Data exploitation and enhancement	<ul style="list-style-type: none"> - Decision-making based on enriched and contextualised data; - Data exploitation, particularly proprietary data; - Improvement of predictive models; - Scaling up made possible.
Enhancement of the employer brand image and the attractiveness of the organisation	<ul style="list-style-type: none"> - Implementation of ethical and environmental principles aligned with the organisation's values; - Employee engagement and collaboration between teams; - Strengthening of the brand.
Various	Improved resource allocation.
	Acceleration, agility and transformation.
	Reduction in errors.
	Reduction in the number of tools per person involved in a decision-making process.
Strategic	
Commitment & innovation	<ul style="list-style-type: none"> - Reduction in lead time (the time between placing a supplier order and delivering the goods to the customer); - Creation of competitive advantages; - Creation of innovative products and services; - New business models.
Customer experience	<ul style="list-style-type: none"> - Development of unique, customised solutions; - Improving customer conversion; - Customer satisfaction and loyalty; - Personalisation of customer interaction and customisation of offerings; - Enrichment of user journeys; - Reduction in response time to end customers; - Engagement on social media; - Improved customer service.
Financial	
Reduction in costs and risks	<ul style="list-style-type: none"> - Reduction in labour costs; - Simplification of certain tasks; - Reduction in decision-making costs; - Savings on services provided by AI (e.g. HR, IT, marketing, assistance with completing product sheets); - Reduction in risks.
Revenue generation	<ul style="list-style-type: none"> - Increased sales; - Optimisation of pricing and upselling; - Improved customer conversion; - Reduction in customer attrition (churn).
Agent performance	<ul style="list-style-type: none"> - Success rate; - Accuracy.

Cost	
Generative and agentic AI costs (initial and recurring)	<ul style="list-style-type: none"> - Equipment and solutions; - Licences; - Engineering; - Technical choices (RAG, fine tuning, etc.) (*); - Servers; - Cloud; - Storage; - Energy; - Interoperability; - Solution integration; - Solution training; - External service and provision; - Environmental cost.
Maintenance and supervision	<ul style="list-style-type: none"> - Monitoring; - Corrections; - Updates; - FinOps cost.
Risk and failure management	<ul style="list-style-type: none"> - Poor decisions and misuse; - Errors.
Transformation costs	<ul style="list-style-type: none"> - Infrastructure to be set up or modified, licences; - Software upgrades to access desired features; - Governance to be put in place; - Risk management; - Security and compliance; - Redesign and implementation of new business processes; - Research & Development and Innovation; - Change management; - Transformation monitoring; - Implementation of structured and rigorous data management, protection and confidentiality, and data-driven management; - Talent training, reskilling and upskilling (**); - Expert assignments; - Recruitment in certain cases.

(*) Companies evaluate the best compromise between the various technical possibilities to meet the use case: generation augmented by retrieval (Retrieval Augmented Generation or RAG), or fine-tuning, which goes further by adapting a pre-trained model to a specific task or domain using customised data. This amounts to specialising a versatile tool for a particular job. However, fine-tuning requires significant expertise in data science and LLM architecture. As LLMs consume a great deal of energy, companies choose the geographical location where generative AI solutions will be used based on local

energy supply capacities, energy source (nuclear, gas, coal), and the availability, stability and security of electricity grids in order to minimise their impact.

(**) When agentic AI becomes more widely deployed, employees managing AI agents will need to be trained in this type of management in order to know how to manage these AI agents and monitor the associated costs.

2.3 INDUSTRIALISATION VIA THE AI FACTORY

To move use cases from experimentation (PoC) to industrialisation and thus generate a lasting impact, an industrial company proposes to draw inspiration from AI Centre of Excellence or "AI Factory" models. This approach has enabled it to move from a series of disconnected projects (costly or not) to a sustainable organisational capacity to create value with AI.

More specifically, in this case, it involved setting up a team and a platform to accelerate and secure the deployment of use cases, whether horizontal or vertical, in order to:

- Manage the portfolio of initiatives to help business units identify and prioritise use cases according to the evaluation framework (Foundation, Horizontal, Vertical) and define success indicators;
- Provide a unified technical platform offering reusable technological building blocks and ready-to-use tools (data access, pre-trained models, MLOps) so as not to "reinvent the wheel" for each project;
- Ensure governance and ethics by defining standards (data quality, security, bias, compliance with the AI Act and regulations) and providing observability tools that guarantee fair play;
- Spread skills by facilitating training, knowledge sharing and acculturation throughout the organisation.

This example shows how the role of digital leadership is evolving. It is no longer simply a technology provider, but an architect of transformation. Its value lies in its ability to manage this complex portfolio of assets, articulate this dual horizontal and vertical strategy, and build the business plan that will enable the organisation to reap the long-term benefits of AI.

3 PRODUCTIVITY VERSUS COMPETITIVENESS

The widespread adoption of generative and agentic artificial intelligence systems within businesses and public administrations is geared towards a common and measurable goal: improving productivity. By automating tasks and optimising workflows, organisations hope to achieve rapid efficiency gains. In this race for optimisation, players are primarily seeking to perfect their internal processes. However, the temporary nature of an advantage based on tools and methods that are accessible to all should be taken into account in order to help teams gain skills and acculturate all employees in the handling and use of these new technologies. Indeed, when an entire economic sector adopts the same levers, productivity gains tend to become the new operational norm. The risk is then to raise standards for everyone, without creating sustainable differentiation, which could lead to a form of strategic homogenisation.

This strong focus on operational efficiency through technology suggests a possible disconnect with the deeper purpose of these tools: to **create new value propositions**. A gap could thus widen between the ability to do what we already do faster and with fewer resources, and the more complex ability to invent what we could not do before.

Furthermore, this dynamic, centred on process efficiency, is not without repercussions on a human and social level. It questions the very nature of work and the value of human capital within the company. Some companies have deliberately abandoned certain uses of generative AI, even though they were relevant, because they had harmful side effects: by automating certain exchanges between two teams, they reduced interactions that were essential to the smooth running of the organisation.

The automation of certain cognitive tasks could also profoundly redefine the skills expected of employees, potentially widening the gap between those whose role is enhanced by AI and those whose activities become replaceable or even redundant.

Finally, companies and public administrations agree that human skills are now a strategic lever for stability in a constantly changing environment. The strategic challenge is therefore to ensure that today's productivity gains do not become an end in themselves, but rather a **lever for tomorrow's competitiveness**. This is why it is important to clearly distinguish, in corporate strategies, between what constitutes modernisation and what constitutes true transformation. Managing this transition then becomes a major challenge in terms of internal cohesion and the sustainability of know-how.

CONCLUSION

Generative or agentic AI tools complement traditional AI tools, or other existing technologies, to address the strategic and business challenges of companies, or the challenges of public administration service offerings. However, AI cannot be treated as a simple cost optimisation tool and must be seen as an **investment in the organisation's capacity for innovation**.

The success of AI projects depends on structured change management, combined with profound industrial and organisational transformations, as well as ethical and environmental principles aligned with the organisation's values and current regulations. This approach strengthens team commitment and optimises resource allocation. The promise of AI can only be realised by involving employees and social partners, training them and clearly embedding this transformation in the strategy.

The companies and public administrations in the working group have found that bottom-up approaches (from teams to management) give rise to small projects, leading to transformations in specific areas with limited gains, but which enable employees to embrace these new technologies, develop their skills and raise their awareness of the importance of data quality in feeding these AI systems. The only constraint is that the transformation of organisations must be rapid enough to stay ahead of new entrants to their market who are starting out directly on automation foundations using new AI solutions.

They also believe that top-down projects, led by management and aligned with strategy, are the most structuring and generate a lasting impact on performance. They recommend defining a comprehensive, consistent AI strategy based on detailed market analysis, in line with strategic directions. While AI improves existing processes, **its full potential requires rethinking working methods and value chains in light of generative and agentic technologies**.

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This note was written by Marine de Sury, Mission Director at Cigref.



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www.cigref.fr

21 av. de Messine, 75008 Paris

+33 1 56 59 70 00

cigref@cigref.fr



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