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HUMANS. COMPANIES. AI.

Shaping the future in a changing economy

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Shaping the Future in an Economy in Transition

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Part I: AI Takes Over

1 Three Areas of Development

The AI Space Framework (Weinreich 2024a+b) provides a useful framework for future developments. Let us first take a bird's-eye view of the whole picture. A trend toward three distinct spaces is emerging. The term "space" describes the model more aptly than the term "phase," since phase models imply a strict developmental process, whereas spaces allow for free movement. One can actively enter spaces, look around, and choose to use some elements or not. Hence the AI-Space Framework with its three defined spaces, which I first published in English in 2024 (Weinreich 2024a). To understand it, let's take a brief and simplified look at the historical development of AI.

As early as the 1950s, scientists were working on teaching machines to solve tasks independently, without having to program the exact steps into them. Machine learning was born. Machines can learn when they are able to process input in a meaningful way. This means they must be able to analyze data and optimize their internal processing algorithms accordingly. This is not magic, but simply applied mathematics. Machine learning models typically use sophisticated statistical methods. This often led to astonishing results, but it took time for machine learning to become relevant. In the 1990s, there was even a so-called "AI Winter," during which interest in AI declined sharply because exaggerated expectations were not met. The reason for this was not least due to insufficient hardware and thus computing power.

> **The right tool for every task**
>
> Artificial intelligence is more than just generative AI. It helps to use the right tool for the job rather than a one-size-fits-all solution. Of course, you can use ChatGPT to perform simple calculations, but it is more expensive and energy-intensive than using a calculator. Furthermore, the likelihood of errors is much higher.

Task Type	Technology and underlying logic
Simple calculation and control, e.g., arithmetic problems, automated switching operations	Algorithms: fixed rules, algebra, if-then logic
Symbolic, explainable reasoning, e.g., medical diagnostics, decision preparation	Expert system: rule-based logic
Data analysis and pattern recognition, e.g., big data analytics, predictive maintenance, customer segmentation, text and image classification	Machine Learning (ML): Statistics – correlation, regression, decision trees, etc.
Content generation and complex perception, e.g., text, image, audio, and video generation	Generative AI/Deep Learning (DL): artificial neural networks, multi-layer learning structures, probability estimation
Multimodal and context-sensitive understanding, e.g., systems that combine text, images, audio, and sensor data, assistance systems, digital twins, autonomous systems	Generative AI/various foundation models: combination of different neural architectures, self-supervised learning

At the start of the millennium, two things grew exponentially: the computing power of computers and the volume of data stored and awaiting analysis. “Big Data” describes an information landscape in which not only immense quantities of data exist, but also highly complex ones. It is a treasure trove for companies that know how to analyze it, and a nightmare for the people tasked with doing so. No human can manage this, at least not without technical assistance. No wonder that during this period, analytical AI—I’m using the term here to refer to all non-generative methods—underwent rapid development and thus became the strongest line of development. Initially. At the same time, there were approaches to using AI generatively. Both create significant value and describe the first space of the framework, the “productivity space.”

We have all witnessed the “generative revolution”—that is, the emergence of systems capable of generating content of astonishing quality. Some people had the impression that large language models had shattered the boundaries of AI development once and for all, making everything possible, including Artificial General Intelligence. That is not the case, and the limitations of language models quickly became apparent. Companies are now working to merge analytical and generative AI into a multimodal, multifunctional AI. This brings us to space two, the “decision space,” where systems become more autonomous and make their own decisions to a limited extent.

If we think even further ahead, AI will become a permanent and ubiquitous companion, not only in organizations but also in our everyday lives. The more we use this technology and grant it the right to act independently, the more...

as these systems shape our world of their own accord—at first barely noticeably, then with increasing intensity. This is the focus of Room Three, the “Design Space.”

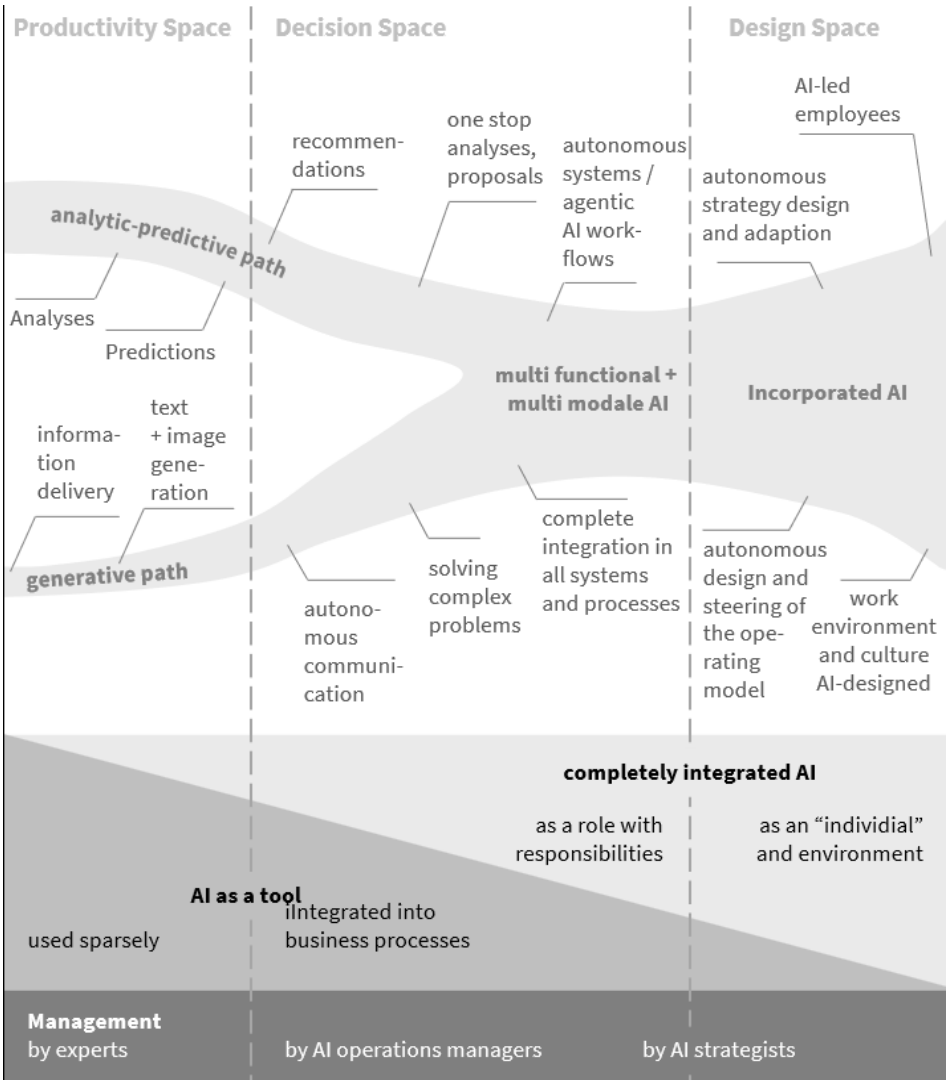

Figure 1: The AI Space Framework, © Uwe Weinreich 2024, licensed under CC BY-SA 4.0 (Creative Commons n.d. a)

Will there be additional spaces? Most likely, but speculating on them would be pure conjecture. Is it guaranteed that everything will unfold exactly as described? Some things will certainly change, at least in the details. That is why Part III of the book explains how to deal with unforeseeable developments. Let’s first look at the three spaces defined so far.

5 Operating Models

Let's imagine the future in the design space, where artificial intelligence is not just a tool but an independent entity within the organization—a networked and intelligent layer of autonomously acting systems that makes decisions, optimizes processes, and reacts to market signals in real time. What does such an organization look like? What new models and principles will emerge to keep pace with this reality?

The integration of artificial intelligence into corporate structures promises an era of hyper-efficiency, in which processes are optimized and decisions are made in real time. This can only work if the organization of the future is not a static entity, but a living system. It reacts, learns, and continuously adapts. Companies that successfully navigate this transformation will not only become more efficient, but also more resilient and innovative.

In an AI-centric organization, strategy, tactics, and operations converge. The operating model—the combination of structures, processes, technology, employees, skills, and governance—adapts dynamically. AI systems continuously analyze market data, customer behavior, and internal processes. Decisions are no longer made in rigid quarterly meetings, but in milliseconds by learning algorithms. Production, supply chains, and sales adapt seamlessly to fluctuating demand and geopolitical changes.

Let's take another look at the future scenario for AIProdCorp from the chapter "The Design Space":

> The Strategic Horizon Dashboard at AIProdCorp detects that demand for Interaction chips is suddenly and unexpectedly rising in Southeast Asia. The AI passes this information and a resulting framework for action on to Collab Operaitor.
>
> Within fractions of a second, Collab Operator analyzes inventory levels, production capacities, and logistics chains and designs scenarios for how to best respond to the changed market situation. Three scenarios are shortlisted for human review. For all three, resources must be reallocated and delivery routes optimized. Since some adjustments are the same for all viable options, Collab Operator implements them immediately.
>
> In the internal workflow, priorities and work packages must be adjusted. Collab Operator assembles a new team of experts, finds a time slot for a joint meeting, and prepares the agenda.

> The system now delivers a summary of the analysis results, the action options, and the changes already implemented to the Strategic Horizon Dashboard, requesting that the executive board provide feedback on the three possible price adjustment levels, as price adjustment was not authorized within Collab Operator's scope of action.
>
> Five hours later, the board meeting begins with a report from the Strategic Horizon Dashboard. As is almost always the case, there is no criticism of the adjustments made, and the decision on the new pricing structure is reached in a matter of minutes.

Artificial intelligence is the new partner and the driving force behind efficiency in companies—or, more precisely, hyper-efficiency, when compared to what humans are capable of. Various systems work together in a coordinated manner, make autonomous decisions, and implement them within the permitted scope of action. Such an operating model requires more than just technology. It demands a radical departure from traditional structures and the courage to fully digitize decision-making processes.

A Fluid Operating Model

If people are not to become roadblocks in a hyper-efficient organization, the operating model must be fluid. This goes beyond agility. Fluidity is the ability to adapt quickly and efficiently to change by replacing rigid structures with flexible and dynamic processes. This enables a rapid response to market shifts and technological developments.

Fluid organizations are able to promptly restructure their operating models and adapt them to new requirements. Rigid hierarchies are replaced by adaptive networks. Teams constantly form and reform themselves, depending on current requirements and tasks. The result is a high degree of adaptability and innovative power that extends far beyond product and service innovations. And when product or service innovations emerge, artificial intelligence immediately adapts the operating model to create optimal operational structures for those innovations.

It is not easy to cope with this dynamic, not even for top management. Therefore, fluidity is not a given. It requires a profound cultural transformation in which people can gradually learn that fluidity is not threatening, but rather creates many opportunities and leads to exciting job profiles. Getting there will be a long transformation process.

It starts with the design of the operating model. Currently, this is still done by people. That is unlikely to remain the case. The decision to adopt an "automation-first" culture lays the

foundation for a hyper-efficient and fluid organization. However, members of the board and executive management must be aware that they are, to some extent, relinquishing their own power.

Automation-First

When systems are the main drivers of productivity, nothing makes more sense than giving them priority. An Automation-First culture focuses on designing processes primarily for automation.

Processes are designed to run primarily in an automated manner and to be optimized automatically as well. Human interactions and interventions are kept to a minimum. This has advantages. Workflows are accelerated by a factor of X, which in most cases is greater than ten. Errors caused by human action are reduced to a minimum. Routine tasks are thus disappearing more and more from everyday life. This reduces the workload, but can trigger a feeling of loss of control and disorientation.

Job descriptions will adapt just as quickly as processes are adapted. Employees no longer hold fixed positions but dynamically fulfill roles that arise from current challenges.

Very few people are cut out for this. We all need a certain degree of predictability. Routine provides security, and stable teams serve as a professional home. Therefore, significant emphasis will be placed not only on developing flexible processes but also on fostering a supportive and people-oriented corporate culture that offers enough stability to allow for change in tasks, processes, and teams.

For companies, this development brings several advantages. Greater efficiency enables better positioning, especially in price-sensitive markets. Either a company gains greater market share by establishing price leadership while remaining profitable. Some competitors will likely be unable to keep up, leading to market consolidation. Or higher prices can be maintained, and profit margins increase due to productivity gains (See also: Budzinski 2019).

Decentralized Value Creation

Fluidity does not work in rigid hierarchical organizations. Companies are becoming networks of people and AI systems. This involves shifting decision-making authority from a central authority, such as management or the board of directors, to autonomous

units within the organization. Such a unit can—especially in the design space—be an artificial intelligence.

If decentralization is taken to its logical conclusion, the boundaries between companies themselves, suppliers, partners, and customers will dissolve. Systems can operate seamlessly across organizational boundaries if there is an interface on the other side capable of receiving and appropriately processing incoming data. Value creation is becoming increasingly decentralized.

A network economy is emerging. Data, resources, and talent flow dynamically between partners, startups, and freelancers. Companies are becoming platforms that orchestrate coordinated value chains. The role of the orchestrator essentially falls to AI systems. They will not only optimize internal processes but also manage collaboration and monitor and optimize the networking architecture—all in a data-driven, precise, and lightning-fast manner.

Decentralization offers companies the opportunity to operate more flexibly and innovatively. At the same time, it requires careful planning and effective communication to minimize potential drawbacks. A balanced relationship between central framework-setting and decentralized autonomy is crucial to leveraging the advantages of both approaches and ensuring the company's competitiveness.

The concepts of "artificial intelligence as a controlling unit" and "decentralization of value creation and decision-making processes" seem contradictory at first glance: While AI is often perceived as a central control instrument, decentralization relies on distributed decision-making authority and personal responsibility. However, upon closer examination, it becomes clear that both concepts not only complement each other but together enable a new organizational logic.

Modular AI, which is no longer monolithic but instead integrates various agent-based systems, forms a robust, functional, and resource-efficient foundation. The architecture consists of a central, controlling AI and decentralized AI agents.

In decentralized structures, local units make decisions based on the information available to them. AI can act as a local enabler here, for example by providing real-time data analysis and forecasts. Small, autonomous AI agents can make local decisions and respond to specific problems without having to wait for approval from a central authority. The decentralized units are coordinated via a central AI-supported platform without the need for rigid central control.

6 The Future of Work

The Era of Post-Productivity

Before you read on, please take a look at your bookshelf, your digital library, the podcasts you subscribe to, or your newsletters. What do you find in the self-help section? There's bound to be something on the topic of "becoming more efficient" or "better time management" or
"getting jobs done" or something similar. If you visit your favorite bookstore, you'll find countless other titles showing you how to optimize yourself for even better performance at work.

Behind this lies two centuries of industrial history. The First Industrial Revolution, which began at the end of the 18th century, marked the transition from manual labor to machine-assisted production. The invention of the steam engine was a decisive turning point. Machines were tools for amplifying power. People were increasingly reduced to performing simple, monotonous tasks. The machine was a tool that took no account of human needs. Workers had to submit to the machine. It dictated the rhythm. There were no breaks while the steam engine was running, and working hours were often brutally long.

With the Second Industrial Revolution, beginning around 1870, electricity made its way into manufacturing. It gave rise to the assembly line and mass production, which were perfected by Henry Ford in the early 20th century. The idea was to achieve maximum efficiency through the precise coordination of human labor and machinery. Machines were no longer tools, but rather controllers of the production process. Humans became servants of efficiency and lost their creative freedom. It was a hierarchy in which machines set the pace and humans followed. The division of labor on the assembly line continued the degradation of humans into "cogs in the system." Instead of overseeing the entire production process, workers were responsible for a single, constantly repeating step. Although working hours became shorter, monotony increased. Once again, humans had to adapt to the machine—this time not only physically, but also mentally.

The Third Industrial Revolution, beginning in the 1960s, brought computers, automation, and eventually the internet. Machines were suddenly able to "think," make decisions, and control complex processes. Jobs were automated, and production chains were globalized. Routine tasks gradually disappeared, while more demanding tasks increased. Machines began to make decisions—though still according to the rules that humans had programmed. Humans became operators and data providers. The machine began to adapt to human needs, for example through ergonomic design or user-friendly interfaces, but the

adaptation was limited. At the same time, many jobs were replaced by machines. And people had to retrain to be able to work with computers. The requirement was to "grow with the machine."

At the same time, self-help guides on efficiency and perfection began to gain popularity. This is understandable, because contrary to the promises of early technology prophets, digitization did not make work easier or less demanding; instead, expectations rose alongside technical capabilities, and people were required to demonstrate ever-greater efficiency, productivity, and adaptability. Machines retained—albeit in a smarter way—control over the fundamental nature of work. People are forced to engage in lifelong learning to keep pace with ever-accelerating developments.

The developments of the first, second, and third industrial revolutions have all led to people having to adapt to machines. Over the centuries, this process has become so normal that it is hardly ever questioned. And the pressure within companies is often so great that self-help authors make good money.

AI is ushering in the Fourth Industrial Revolution. This is fundamentally changing the relationship between humans and machines. AI prophets, such as Ray Kurzweil, foresee a transhuman future in which artificial intelligence will far surpass our capabilities, leading to a quasi-natural continuation of evolution in which humans will play only a subordinate role, perhaps as a kind of "pet" of AI (Kurzweil 1993).

Similar views are held by the voices of caution. In their opinion, AI will steal jobs from millions of people. The International Monetary Fund (IMF) estimates that 40% of jobs worldwide—and 60% in advanced economies—are at risk of being eliminated or transformed by AI. The IMF warns that the technology has the potential to increase inequality (Georgieva 2024). Mass unemployment and unrest would be the result. And last but not least, there would eventually be a risk that an all-powerful AI could turn against humanity and wipe it out.

In both cases, the prediction is that people will become even more—or even increasingly—dependent on machines. I take a different stance, one that enables a new form of collaboration between humans and machines. With AI, machines are adapting to humans on a large scale for the first time. Voice control, personalized AI, adaptive systems, and collaborative robots put people at the center. Work is becoming more flexible, more creative, and often location-independent. If we shape this development wisely, we can succeed in having machines take on the role of efficiency. They can do it better than we can.

In this scenario, humans can refocus on their uniquely human qualities and skills, such as perception, empathy, creativity, building meaningful relationships, and so on. This is how a productive coexistence between humans and AI can be established.

It is not a matter of doing without AI or neglecting efficiency. On the contrary, inherently human qualities can even be enhanced through the use of AI tools. A study of 776 professionals at Procter & Gamble showed that the use of AI makes individuals as efficient as traditional two-person teams, and that AI-supported teams deliver top-tier solutions three times more often than teams without AI. AI can bridge knowledge gaps and even boost positive emotions (Bastian 2025).

It won't be easy. Not because it's so difficult to develop artificial intelligence accordingly, but because we've all—entrepreneurs, managers, executives, and employees—been conditioned, and in some cases drilled in business schools, to focus on maximizing human efficiency. Only when there is a major shift in thinking about what contribution people can and should make in a fully digitized and AI-driven economy will we succeed in advancing the development of both people and AI in a way that creates a world that is positive for humanity.

We are thus faced with the question of whether the machine will become a partner or whether it will remain an invisible ruler whose logic we must obey. It is a question whose answer we must work toward. It depends on how we shape the future of the economy in the age of AI.

We are entering the post-productivity era. This does not mean that efficiency will be lost. Quite the contrary. Thanks to the technological capabilities we will have in the future, efficiency will increase to an unprecedented degree. The difference from the productivity era will lie in the fact that humans will contribute to efficiency to a far lesser extent. This role will increasingly be taken over by AI.

A radically transformed labor market

Efficiency explosion in the productivity space

Let's start with one of the most difficult and, at the same time, most dramatic questions: Will there still be enough jobs in the future? Opinions are divided. In 2024, the World Economic Forum (WEF) predicted that automation in the workplace is advancing faster than expected and will displace 85 million jobs over the next five years. On the other hand, according to an older estimate, 97 million new jobs are expected to be created (Russo 2020). This would represent a net gain of 14% more jobs—a positive outcome. That gives us hope.

The positive scenario assumes that our jobs will become more valuable, in two ways. AI will relieve us of tedious routine tasks, allowing us to focus on higher-value and thus more

exciting tasks. This increases our value contribution, which should translate into better pay.

Is this a lifeline for everyone? Certainly not. Anyone working as a translator today will likely be unable to do so tomorrow. And retraining to become a data analyst will be an option for only a very few. So even in the best-case scenario, there will almost certainly be losers. Here, the WEF predicts that the most vulnerable groups will need support from companies and governments.

So what does the worst-case scenario look like? Let's be honest. If the developments described above play out in the decision-making arena as they currently appear to be heading, millions of jobs will be lost worldwide. A few examples from the past: In January 2023, Google laid off 6% of its workforce (12,000 employees) due to AI-driven automation, and another 1,000 people in 2024. Meta announced in January 2025 that it would reduce its workforce by 5% (3,600 employees). In 2023, there was a wave of 11,000 layoffs (13% of the workforce), justified by increased AI efficiency. Microsoft, in January 2023
10,000 jobs were cut, partly due to AI-powered automation tools. Also in 2023, Amazon laid off 27,000 employees, including in several departments where significant progress had been made through AI. In January 2023, Salesforce laid off 10% of its workforce (8,000 people), citing AI-powered automation as the reason, which reduces the need for certain roles. In 2025, another 1,000 positions were cut. In 2025, Spotify announced it would no longer create new positions that could also be replaced by AI. And Loveable, a startup founded in Stockholm in 2023, is setting out to use AI to render the entire software development profession obsolete. I myself was able to use the system to build a complex management tool for my company within a few days and for a cost of 50 euros—a task that would previously have required a team of three to four developers working for over half a year.

What stands out? It is tech companies—the pioneers in AI—that are implementing massive workforce reductions, and the job growth predicted by the WEF is not materializing. On the contrary, on average, there is a loss of approximately 10%. And we are only at the beginning of a trend that will grow exponentially.

Should we be afraid? Better not, because fear is a destructive force. Instead, we should be concerned and proactive. Employees can already start looking into how they can upskill for the AI era. Companies should not hesitate to gain early experience with AI, develop scenarios for their own growth, drive innovation, and adapt their portfolios. Governments must overcome their inertia and quickly and proactively develop plans for how societies and their social systems can become resilient against potential waves of layoffs, even if they do not turn out to be as severe as feared. Waiting and seeing will not help.

7 Collaboration between humans and artificial intelligence

Artificial intelligence is revolutionizing business processes—from workforce planning and financial forecasting to customer service. But where there is light, there is also shadow. The more AI is integrated into decision-making processes, the greater the potential risks become. Bias, quality issues, and the loss of human judgment can not only cost companies dearly but also jeopardize trust, reputation, and long-term innovation. Let's take a closer look at the key problem areas.

Limits of AI and Autonomy

When AI begins to make decisions independently in the decision space, caution is required. Two aspects are critical because they can cause serious problems in the interaction between humans and machines: bias and the loss of human judgment.

Biases and Prejudices

AI is neither objective nor error-free nor neutral—it reflects the values and assumptions of its developers and follows the rules that have been programmed into it. Distortions and biases in datasets are among the most well-known problems of AI and IT systems. Among developers and data analysts, the rule "garbage in—garbage out" has long been accepted ("If you feed it junk data, you'll only get junk out"). When historical data reflects societal or corporate inequalities, AI reproduces exactly these patterns. A classic example was Amazon's discriminatory AI, which disadvantaged women in the applicant selection process because the training model was based on male-dominated applicant data.

In a business context, companies use their own data to train systems. These systems typically suffer from the fact that they reflect only a narrow slice of reality. In numerous projects, I have observed that analyses of customer needs and behavior have focused exclusively on existing customers who make regular purchases. This creates a critical knowledge gap. This is because the needs of customers who make a single purchase and then never return due to dissatisfaction, or those who have never even considered making a purchase, are not represented or analyzed. These customer groups are often the driving force behind innovations that can transform the market.

What is particularly serious is that the consequences of distortions and biases often go unnoticed because there are no contrasting results available. The resulting discrimination can trigger a loss of trust and massive reputational damage. The list of companies publicly criticized for their "unfair" AI systems is growing longer by the day.

Distortions and biases can never be completely eliminated. And to be honest, we must admit that humans, too, are subject to a significant degree of distortion and bias. That doesn't make things any better. That is why responsible use of AI requires that data management be conducted consciously and critically, that regular audits take place, and that development teams be deliberately assembled in a diverse manner. Responsible data management must not remain a "side project."

Loss of human judgment and decision-making ability

Several studies have now shown that we humans often place too much trust in AI. Researchers at Stanford University, for example, investigated whether providing explanations for AI decisions reduces users' excessive trust in AI systems. The study concluded that while explanations do help, they do not completely eliminate the tendency to place undue trust in AI (Miller 2023). Large language models, such as ChatGPT, provide such polished responses that even the most absurd nonsense can sound convincing.

Mustafa Suleyman, CEO of Microsoft AI, warns of the imminent emergence of "Seemingly Conscious AI" (SCAI) (Suleyman 2025). By this, he refers to AI systems that convincingly give the appearance of consciousness without actually being conscious. They exhibit a personality without being a person (without "personhood"). The systems simulate all markers of consciousness (self-reference, memory, emotions, preferences, goal-setting), so that many people perceive them as "persons." I share his view that the real risk of AI lies not in genuine machine consciousness, but in the illusion of consciousness, which can lead to the misattribution of personhood with psychological and social consequences. The more AI is integrated into decision-making processes, the more frequently people blindly rely on the seemingly intelligent AI decision. But machines make mistakes and lack ethical standards, gut instinct, and a sense of nuance. This is a risk that must be addressed. Otherwise, the consequences could be significant. People might stop asking critical questions, even when the results are obviously flawed. Constant reliance on AI can lead to a decline in expertise and human judgment. People become blind to judgment.

The sheer volume of machine-generated statements to be evaluated will only reinforce this trend. AI-powered communication tools will dominate our daily work lives. Automated meeting minutes, AI assistant systems that generate summaries and to-do lists, proactive analyses,

and other things will overwhelm human capacity. It is impossible to critically scrutinize every single case.

Human oversight is therefore not fully possible, but must never disappear entirely. A "human-in-the-loop" approach, in which humans review and, if necessary, correct AI decisions, is a fundamental prerequisite for responsible decision-making. The key lies in understanding AI as a support rather than a replacement for human thinking.

Even if, in the design space, the company is guided by AI in its core functions, this must not be a purely autopilot function. It is the responsibility of company leadership to develop clear functional and ethical guidelines for AI use and to define the framework for AI operations. In doing so, careful consideration must be given to in which cases and how human oversight mechanisms are activated.

There is a technical approach to making decisions accountable. The development of transparent, trustworthy AI—and ultimately responsible AI—are hot topics. The key lies in the traceability of decision-making processes. So far, it has been difficult to understand how AI arrives at its conclusions. Only when systems are capable not only of delivering results but also of illustrating the path to those results through a process of self-reflection will their outcomes become more assessable and subject to critical scrutiny.

Artificial intelligence is a powerful tool, but it needs humans to serve as a moral and strategic compass. After all, that is precisely what sets us apart as human beings: the ability to think beyond pure logic.

Future Teams

The integration of artificial intelligence into teamwork changes not only work processes but also the structure, communication, and dynamics within teams. Humans and AI will cooperate in hybrid teams where both can optimally contribute their strengths.

Already today, teams use AI agents as sparring partners, for example, to generate new ideas during brainstorming sessions. In the future, there will hardly be any teams consisting solely of humans. Virtual team members—that is, AI tools and automated systems—will take on tasks, analyze data, and prepare decisions. The strength of these systems lies in their ability to perform repetitive, data-intensive, and analytical tasks, while humans can focus on creativity, strategic thinking, and emotional intelligence. This can lead to a fruitful collaboration. If technology is introduced organically and the true needs of teams are taken into account, this transition can even proceed quite smoothly, as teams experience real work relief and improvements in quality.

Many sales teams are already using AI to generate market analyses and customer profiles, while humans use this information to develop personalized sales approaches and build personal connections with customers. Looking ahead, AI-powered communication tools will support teams in their day-to-day work. Automated meeting minutes, AI-generated to-do lists, and AI coaches that analyze team dynamics and offer guidance will become a reality for teams.

Virtual collaboration will become the norm. Geographic boundaries will become increasingly irrelevant. Teams will become more global and diverse. In the not-too-distant future, team members will even be able to participate in meetings as virtual avatars and contribute their expertise (see: Mollick 2024).

Emotional intelligence, empathy, and creativity are becoming the most valuable assets in a team. These are the human strengths that AI cannot surpass in the long run. When teams focus on these, productive collaboration flourishes. If they try to compete with the analytical capabilities of AI, they are bound to lose.

How will this transformation unfold? We can compare the situation to developments in fast-growing companies. Here, employees start out in small teams and have to handle a wide variety of tasks simultaneously. During the scaling phase, more and more specialists are hired in rapid succession, and people who were previously responsible for multiple tasks at once can—or must—now focus on just a few. Others rise to leadership positions and take on more coordinating responsibilities.

The transformation into an AI-driven company works in exactly the same way. Many tasks will decrease, some will even disappear completely, while others will emerge. This opens up two career paths for people. Either they gain the freedom to no longer have to worry so much about tedious routine tasks and can instead focus intensively on specialized areas, or their career path leads in a more coordinating and supervisory direction, as an AI manager, so to speak.

This is already evident today in AI-driven development with tools like GitHub Copilot, AWS CodeWhisperer, Intellicode, Lovable, or Cursor. These systems generate executable code with minimal input. In some cases, they even seem to recognize the intentions of software engineers. The role of developers is changing. Being able to write code is no longer the core competency. Rather, what is required is the ability to design intelligent architectures and processes, to leave the coding to the machine, to monitor and test results, and above all, to keep the client's requirements in mind.

As a result, the human role gains greater significance in the overall context. The extent to which entire development teams can be empowered in this regard depends on internal company

programs and, crucially, on leadership. Simply reducing headcount because AI is so productive does not do justice to this development. Intensive support is needed.

When a colleague is an AI

With this preparation, collaboration between humans and AI should work well. Increasingly, AI systems are becoming almost equal team members or partners with whom daily interaction is at least as intensive as with colleagues.

AI won't care who's on the other side. And we humans possess unique abilities to collaborate with technology. Many readers will likely still remember how easily and intensely it was possible to form a deeply emotional bond with technology. It happened in the 1990s and was like a global epidemic. In 1996, Aki Maita invented a toy for the Japanese company Bandai in the shape of an ice cream cone, featuring a minimalist black-and-white display and three buttons. The Tamagotchi was born. By pressing the buttons, a small cluster of pixels—referred to as a chick—could be fed and cared for. Woe betide anyone who failed to do so properly or at the right time. Then the chick would die.

Children smuggled the device into schools so they could feed it at any time. Entire families have plunged into emotional crises because a parent responsible for its care neglected the virtual creature. All of this shows that we humans are prone to forming strong emotions and bonds with anything that shows even the slightest sign of life (Yang & Oshio 2025). A survey by The Guardian illustrates how enriching, helpful, and limited relationships with chatbots and avatars can be, especially for neurodiverse people (Batty 2025).

In this regard, there is great hope that AI will gain acceptance through the capabilities of the decision-making and design space. However, it requires a human-centered design. This can only succeed if AI tools are perceived not as rivals but as supporters. Clear processes, realistic expectations, and a transparent division of tasks between humans and machines are essential prerequisites.

Early studies show that collaboration between humans and machines can be successful. AI agents become integrated team members and increase the efficiency and resilience of teams (Stave, Kurt & Winsor 2025). However, such productive collaboration does not arise on its own. It must be designed, and it is the responsibility of leaders in organizations to take timely steps to build a positive human-AI culture.

8 Macroeconomics and Geopolitics

So far, we have focused on the changes facing companies. This was important for understanding the dynamics at play. But we must not stop there. Small-scale changes will trigger macroeconomic developments that will disrupt economic systems at the regional and global levels.

We have seen the impact the internet has had since the 1990s. Traditional production and work processes have been fundamentally transformed, shifting toward digitized and networked structures that offer high efficiency at dramatically reduced costs.

Traditional industrial jobs have been drastically reduced, while new jobs have emerged in the tech and service sectors. The platform economy, gig work, and remote work models have disrupted traditional employment structures and made them more flexible. The long-term consequences of this development are mixed. While some economies benefit from new high-wage sectors, automation leads to uncertainty and precariousness in others.

The internet has given rise to entirely new market models that dominate global markets through network effects. Tech giants such as Google, Amazon, Meta (Facebook, Instagram, WhatsApp), and Alibaba control key digital infrastructures and have attained unprecedented market power. Founders have achieved previously unimaginable wealth and immense power over markets, resources, and public opinion in a very short time. Such oligopolistic tendencies have profoundly altered traditional market structures, as economies of scale in the digital realm operate asymmetrically to the advantage of a few players. “The winner takes all.”

At the same time, a new phase of economic globalization has emerged. Digital communication and e-commerce have significantly facilitated international trade and made smaller companies competitive on a global scale. Most of us have likely already purchased some item online from a small Chinese vendor. That would have been unthinkable just a few years ago.

Digitalization has also led to greater fragmentation of value chains, as companies increasingly outsource specialized services globally. Distance is no longer a problem, and regional niches have disappeared.

This is particularly evident in the financial markets. They are now highly interconnected, entirely new asset classes—such as cryptocurrencies—have emerged, and the digitalization of the financial sector as a whole is well advanced. High-frequency trading, algorithmic

investing, and the democratization of finance through fintechs have fundamentally changed the dynamics of global capital flows.

What impact have these developments had on prices? Transparency has become inevitable. I still vividly recall a conversation with an entrepreneur in the 1990s who asked me in desperation how he could take down a website that brazenly disclosed the prices of his product categories compared to those of his competitors. Today, we call that a comparison portal, and it's simply part of the economy. Transparency has become the norm. This has created deflationary effects in many sectors, for example through low-cost e-commerce offerings. At the same time, the data-driven economy has optimized dynamic pricing and created new consumer incentives that influence traditional supply-and-demand models.

From the very beginning, governments have struggled to keep pace with the rapid digital transformation. It happened too quickly and was too different from previous economic changes. While some countries are attempting to curb monopolistic tendencies through regulation (e.g., GDPR, Digital Markets Act), others are focusing on control over digital infrastructure (China, Russia). This has given rise to new areas of geopolitical tension. Digital sovereignty has become a central factor in economic policy.

From a macroeconomic perspective, the internet has not only opened up new sources of growth but has also brought about profound structural changes. Market mechanisms have been transformed, traditional industries have been challenged, and a globally interconnected and increasingly fragmented economy has emerged. There is no sign of this coming to a halt. Issues such as regulation, distributive justice, and technological dependencies will grow in importance.

And now artificial intelligence is entering the picture. From a macroeconomic perspective, AI will lead to an unprecedented market shift. Economic dominance will no longer be determined by capital or labor, but by access to the most powerful AI. A digital race between companies and nations has long since begun.

The entire labor market is undergoing a radical transformation. This transformation will have massive economic consequences, ranging from productivity gains to a complete redefinition of work and value creation.

The following chapters are of particular interest to economists, policymakers, and central bankers. Nevertheless, what is unfolding at the macroeconomic level holds explosive implications for entrepreneurs and managers.

International Economy

The increasing integration of artificial intelligence into economic processes and financial systems will not only transform national economies but also fundamentally alter international economic relations. But how exactly? That is difficult to say, as there are many unknown variables and interdependencies. After extensive research, I incorporated three major language models into a Delphi study. This resulted in four scenarios that could emerge depending on geopolitical developments, regulation, and technological progress.

Scenario 1: The Global AI Race ("Cold AI War")

The U.S. and China define AI as the decisive factor for economic and geopolitical power and pursue an aggressive, nationalistic AI strategy. Europe remains cautious in terms of regulation. Dominant AI systems continue to originate either from the U.S. (Big Tech) or China (state-controlled corporations). A rivalry for hegemony emerges between the US and China—hopefully only in the economic sphere. This leads to:

A trade war over AI technology: Nations use AI exports as a geopolitical weapon, similar to what is happening today with semiconductors.

Block formation in the global economy: The US and its allies are pitted against China and its sphere of influence. Countries must choose between the two technology standards.

Data becomes the new commodity: AI requires immense amounts of training data. Countries with restrictive data protection regimes (EU) are at a disadvantage compared to countries with more permissive data policies (China, US).

AI-driven deindustrialization in emerging economies: Production is returning to high-wage countries due to AI-driven automation, causing emerging economies to fall behind economically.

Such a development would have massive consequences for international economic relations. Protectionist measures are on the rise. Countries are preventing the export of critical AI technologies to secure economic advantages. Markets are becoming decoupled, and globalization is being scaled back to regionalization. Trade flows are being realigned through political and technological alliances. Emerging economies will be hit the hardest. Countries such as India, Bangladesh, and Vietnam, which rely heavily on low-cost labor, lose their competitiveness due to AI-driven automation.

Scenario 2: AI as a global growth engine ("Cooperation & Multipolarity")

AI is viewed as a common good, and international cooperation enables a fairer distribution of economic benefits. Instead of national isolationism, major economic powers are committed to open AI standards, multilateral research partnerships, and joint regulations. This is reflected in the following:

International cooperation on AI standards: The WTO, OECD, and UN play a key role in defining global AI standards.

Free flow of AI innovations: Countries and companies share AI advancements to stimulate economic growth worldwide.

New economic growth in emerging markets: AI is enabling new digital business models in Africa, Latin America, and Southeast Asia.

Global tax agreements for AI companies: Regulatory authorities prevent the monopolistic concentration of AI profits through coordinated policies.

This scenario offers several advantages. Regions do not isolate themselves. Alliances such as the EU, ASEAN, or the African Union benefit from jointly developed AI standards. This development would be beneficial for emerging and developing countries. They would have a real chance to participate and catch up. AI helps solve structural problems in agriculture, education, and healthcare. And overall, there would be greater political stability. Joint investments in AI development reduce geopolitical tensions and generate a peace dividend.

Scenario 3: AI Monopolies and Digital Empires ("AI Oligarchy")

AI development is completely dominated by a handful of multinational corporations. Governments have only limited control over the technology, while companies like Google, Microsoft, Tencent, or OpenAI operate the global AI infrastructure. The world would look like this:

Oligopoly formation: The largest AI companies not only dominate national markets but also take over entire economic sectors worldwide.

Government regulation fails: Attempts to regulate AI markets lead to conflicts between governments and tech companies.

Data sovereignty in the hands of private corporations: Governments have only limited access to economically relevant data, while AI companies control trade and financial flows in real time.

Regional inequality rises: AI-driven markets favor economically strong regions, while weaker countries fall further behind.

Rising trade imbalances: Countries without leading AI technology must purchase expensive licenses, which strains their current account balance.

In 2025, it seemed as though this was the preferred scenario of American Big Tech companies under the Trump administration. It comes at a high cost to nations and 99.999% of citizens:

Countries lose sovereignty over economic developments: Companies act autonomously and are more powerful than many governments.

Rising inequality between countries: Developing countries are economically dominated by data-rich countries.

Governments as supplicants to tech conglomerates: States must negotiate with AI oligopolies to gain access to technological advancements and, where applicable, funding.

Loss of democratic principles: Through their power, companies can exert more influence on political action than the overwhelming majority of citizens.

Scenario 4: AI as a tool of power ("Aggressive AI Geopolitics")

Governments are using AI as a strategic weapon. AI-driven trade and finance are being strategically deployed to expand spheres of geopolitical influence and destabilize other regions. Digital attacks via AI troll farms and AI hacking are also part of this arsenal. This leads to:

Geopolitical manipulation through AI-driven information warfare: Trading partners and competitors are subjected to economic and political pressure through AI strategies.

AI-supported economic sanctions: Nations use AI to influence trade flows in ways that weaken competitors, for example through selective real-time tariffs and algorithmic sanctions.

Part II: Reality Check

9 Methods

Let's take a look at a few methods that can help us form a robust and relevant vision of the future. The results of these methods are far from flawless. Yet even errors have a major advantage over ignorance when it comes to trying to anticipate the future. While companies in a state of ignorance are caught off guard by developments, companies in a state of error at least have an idea of what might be coming. If things turn out differently than expected, they can react more quickly and precisely than they could from a state of ignorance.

If we apply these methods appropriately, the result is not just a single prediction—which may be flawed—but a range of possible developments within which the future will unfold. This often requires applying multiple methods simultaneously and calls for a team in which diverse expertise works together. If we succeed in describing such a future space in a well-founded manner, only a few developments are likely to lie completely outside it. This creates the capacity for action and flexibility.

Science, Probability, and Error

There is a centuries-old tradition of approaching the unknown. It is the scientific method.

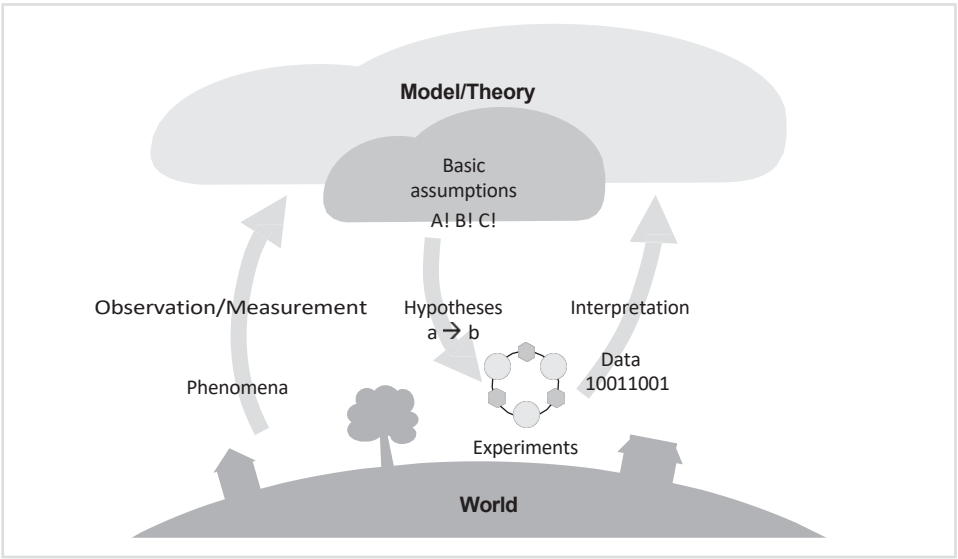

Figure 6: The scientific method. © Uwe Weinreich 2026, licensed under CC BY SA 4.0 (Creative Commons)

The basic structure is simple, even if it can get complicated in the details. It is worthwhile to incorporate at least the basic process into the methodological canon of everyday business life, at least where strategy, innovation, and corporate development are concerned. To do this, we need to recall a few basic principles of the scientific method. Figure 6 shows schematically how it works.

We must acknowledge that, with our senses and all our technical tools, we can always perceive only a part of the world. From this, we construct our understanding of the world. It is an active construction that helps us understand how the world works, but which must be at least partially reconstructed in light of new findings. New knowledge is inspired by ideas and arises from empiricism—that is, from verifiable experience, from measurements, from experiments, and from observations—but not from intuitions, fantasies, visions, or personal interests.

Scientific models, theories, and hypotheses must be coherent and internally logical. If two theories explain the same effect, it is wise to give preference to the one based on the simpler explanatory model. Even that can be revised. All theories have a half-life. Eventually, they will be replaced by a better one. This means that every theory contains an error and explains the world only with a certain degree of probability.

That is why theories must be "falsifiable." How does this work? Once we have a theory, we derive hypotheses from it. These must be formulated in such a way that, in principle, they can be successfully refuted. Only when repeated attempts to refute them fail does the corresponding aspect of the theory hold up. Falsification occurs through experiments. They are, so to speak, questions posed to nature, and the result of an experiment is the answer. For example, when a company promotes a new product, this can be understood as an experiment, and the sales figures are the answer to the question of whether the product is attractive to customers. The best confirmation of a theory is when predictions can be derived from it that are confirmed in the real world.

Let's construct a simple example: Our model of the world contains two central assumptions. The first assumption states that the more customers feel the company is genuinely interested in them and their lives, the more inclined they are to buy our products. The second assumption is that a newly introduced artificial intelligence is capable of writing personalized promotional emails for all customers that connect to the reality of their lives.

Let's formulate a hypothesis: If, in our next mailing, we have the AI write half of the emails and the other half are standard emails, the people who receive the personalized emails will buy significantly more than the others. We also set a benchmark by stating that the effect should be

at least 25% higher. Now test the hypothesis. Half of the recipients will receive a standard email, and the other half will receive the personalized one.

We measure the effects and find that there are more purchases among the group that received personalized messages, but only 3%. Statistically, this could be a random variation. Should we now reject our hypothesis and the associated assumptions? In principle, we would have to do so—at least if all relevant boundary conditions are known and have been controlled for in the experiment.

This is rarely the case, and it would be somewhat premature to reject the hypothesis immediately. Let's investigate potential errors in the boundary conditions. Was the data sufficient? Could the system access it reliably? Did it process it correctly? Was the fine-tuning of the system sufficient and appropriate? Were the emails sent reliably?

Let's assume the review shows that a crucial field in the customer history wasn't accessed at all and therefore couldn't be used for personalization. Let's also assume that during the system's training, an excessive number of texts from an official context were used, leading to a cumbersome writing style. These errors can now be corrected, and the experiment can be restarted. It will likely show a greater effect this time.

We see that the scientific method operates iteratively and recursively. This has major advantages: data drives the process, not assumptions. Metrics make effects measurable, experiments provide starting points for improvements, and an iterative learning process emerges that ensures the "theory of one's own company" becomes increasingly precise. The company thus becomes more controllable.

Eric Ries popularized the scientific method as a tool for managing companies in "The Lean Startup" (Ries 2014 & 2018). By consistently applying the scientific method, you can make better informed decisions, further develop your strategy, and make your company more successful in the long term. And the approach is relatively cost-effective.

The following diagram shows the Experiment Board I developed years ago. It allows teams to visualize, systematically conduct, and evaluate experiments. It is one way teams can manage business experiments, but it is not the only one.

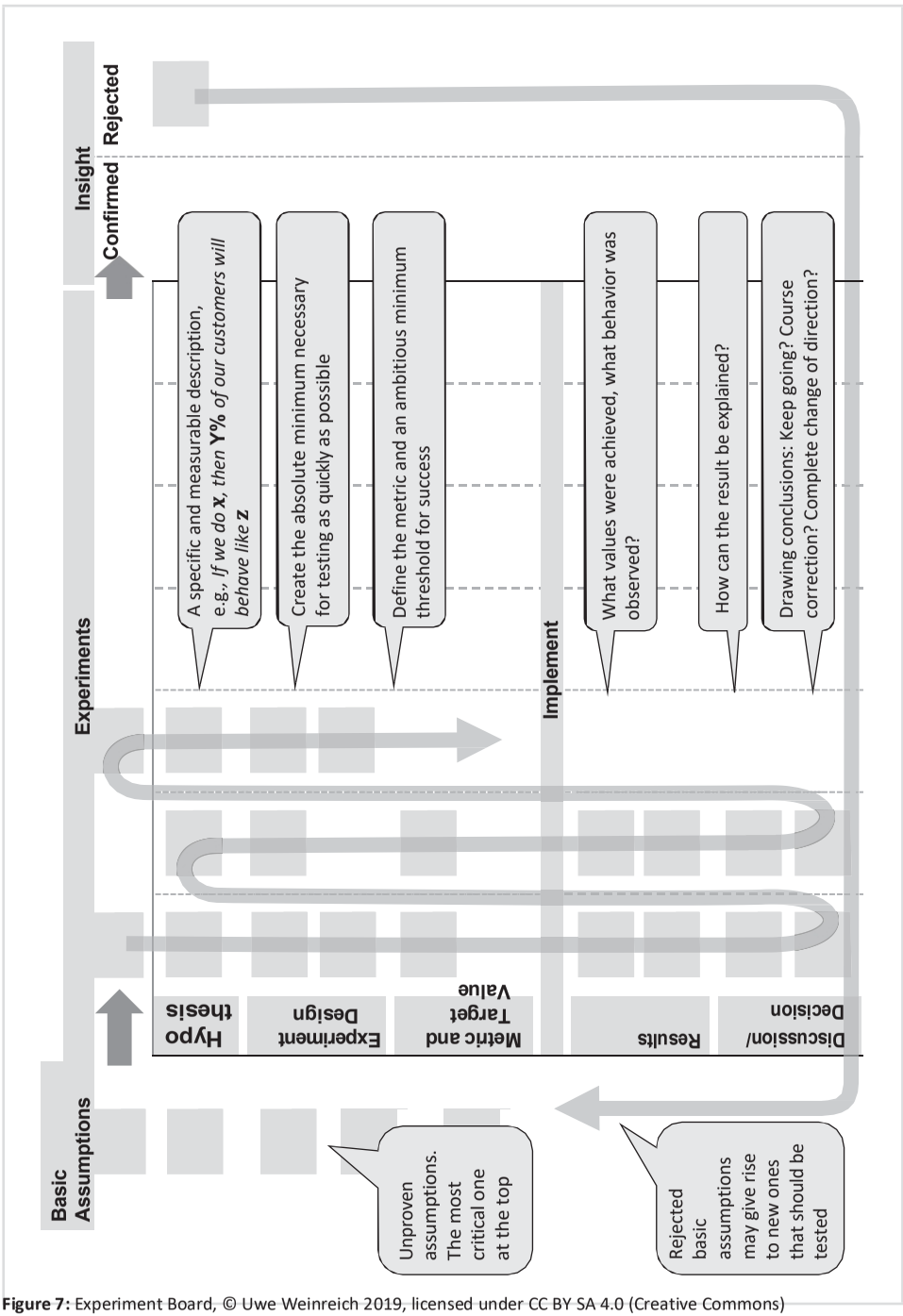

Figure 7: Experiment Board, © Uwe Weinreich 2019, licensed under CC BY SA 4.0 (Creative Commons)

Part III: Designing the Future

Designing, implementing, and executing strategy

Two characteristics are typical and inevitable in strategic processes. First, decisions must be made in existential situations marked by a lack of transparency and uncertainty. Second, a decision alone is not enough. It must have an impact, meaning it must lead to concrete action and results.

As Figure 11 shows, many companies follow only two steps: strategy design and strategy execution, which is often referred to as strategy implementation. This approach ignores the fact that certain prerequisites must first be established in order to achieve results. Jumping directly from design to implementation often leads to failure, as evidenced by failed strategy and transformation projects.

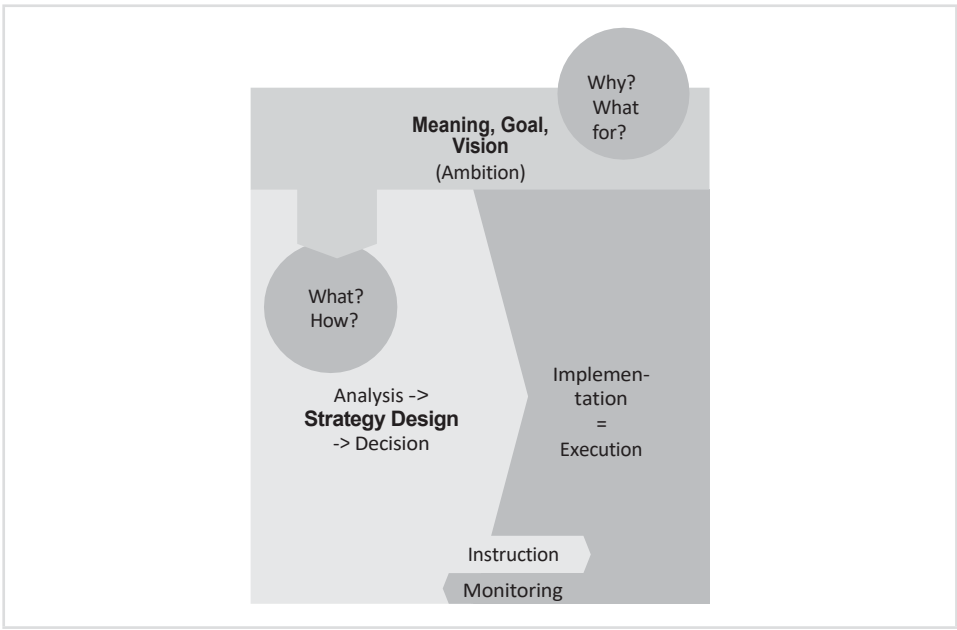

Figure 11: Simplified strategy process. Strategic decisions as a one-way street without sufficient focus on prerequisites.

If this principle is followed, two steps follow the design of the strategy: implementation—that is, creating the necessary conditions—and execution. Anyone discussing strategy should keep this three-step process in mind. Each step requires different competencies, different actions, and different people.

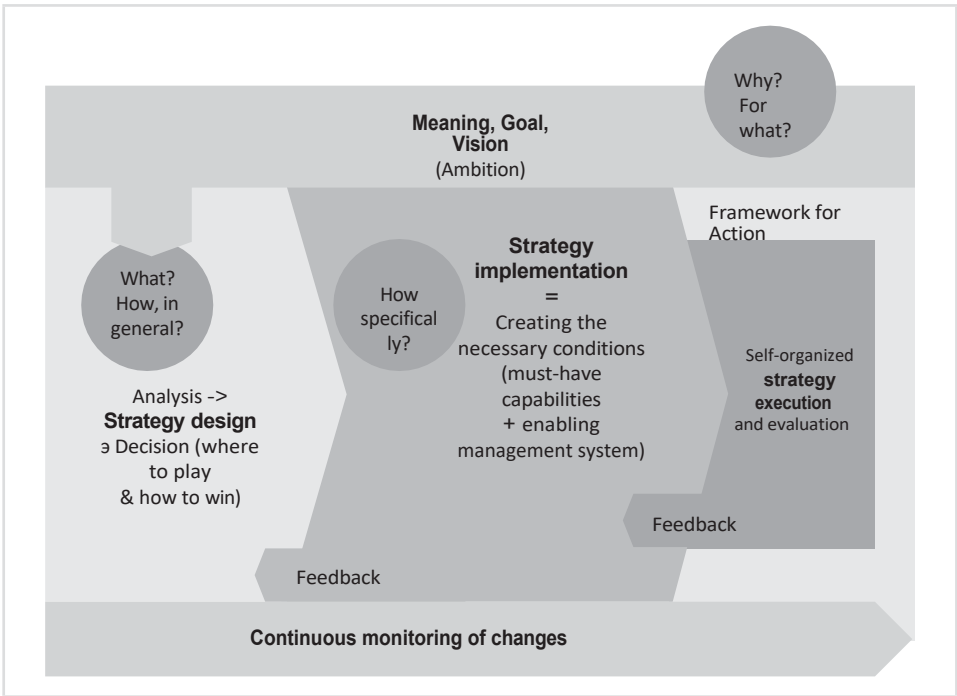

Figure 12: Systematic strategy process with a framework for action and feedback processes: Focusing on strategy implementation creates the conditions for autonomous strategy execution within a defined framework for action. © Uwe Weinreich 2026, licensed under CC BY-SA 4.0 (Creative Commons)

Let's take a closer look at the process. The first step—designing the strategy—requires exceptional analytical skills and precise methodologies. As a foundation, we need at least two things: a clear picture of the economic environment and, derived from the Strategy Shell, a unique definition of what the company stands for and what it aims to achieve. Once both are clear, decisions can be made regarding the company's direction, product and service portfolio, markets, organization, and much more.

In their "Playing to Win" framework, L. Martin and Alan G. Lafley have defined a statement and two key questions that help companies navigate these steps (Lafley & Martin 2013). The statement is the "Winning Aspiration." It describes the company's ambition—what it aims to achieve. This is followed by the key questions "where to play" and "how to win," namely "Which playing field do we want to enter?" and "How do we want to win there?" Those who answer these questions in a well-reasoned and ambitious way develop a tailored strategy. However, this strategy is still far from implementation.

An intermediate step is needed: the precise assembly of the puzzle pieces of the operating model and thus the creation of a viable framework for action. In Roger Martin's concept, these areas of action are called "Must-Have Capabilities" and "Enabling Management System." Behind them lie two perspectives: What resources and capabilities must a company have?

How do we develop the right people to be part of the team? And how should the management system be designed to ensure that the strategy is implemented consistently?

A helpful tool for this phase is the Business Model Canvas by Alexander Osterwalder and Yves Pigneur (Osterwalder & Pigneur 2011). Despite all the playful enthusiasm that developing a business model with the Canvas generates, it is not enough to simply sketch out implementation steps graphically. They must be concretely reflected in the structures and processes of the operating model. Before a strategy can be executed, investments, organizational development, process design, and training are necessary. This phase therefore involves effort—but only it creates the conditions for real impact.

Only the third step—the execution of the strategy—has consequences for the company's success. Now, all measures taken during implementation must interlock and generate results. That is harder than it sounds.

The old military maxim of Field Marshal Helmuth von Moltke still holds true: "No plan for an operation can with any certainty extend beyond the first encounter with the enemy's main force." Or, to put it more succinctly for us: "No strategy survives the first contact with the market." This does not mean that strategies are wrong. But they require constant attention, adaptation, and fine-tuning. This is precisely why Martin's concept of the "Enabling Management System" is essential: A strategy process remains an agile learning process.

Does artificial intelligence master strategic processes? Not at the level of the Strategy Shell, and so far only to a limited extent within the framework of the Strategy Foundry's Dynamic Steering. It can contribute its strengths—especially where rapid analysis of complex data is required. This enables system modeling and the creation of an adaptability buffer. AI has its greatest impact in the third step: the rapid and precise adjustment of strategic action during ongoing operations—that is, dynamic steering. Here, it can change the rules of the game. When such flexible systems review decisions more quickly and make more targeted adjustments, this leads to efficiency gains and accelerations that humans could not achieve.

Fluid Strategy in Practice

No company has perfected fluid strategic management, but many are working with partial solutions and pioneering models, mostly in areas where technology, culture, and market logic intersect. Operational levels (monitoring, control) are generally mature, while strategic-proactive dimensions (e.g., purpose-driven innovation) depend on individual management.

The Author

Uwe Weinreich is a trained psychologist, entrepreneur, coach, and consultant with many years of practical experience in business psychology and AI. As early as the 1990s, he had to grapple with artificial intelligence during his doctoral studies. The goal was to develop a support system for management decisions. The results were frustrating. The hardware available at the time led to endless processing times and crashes.

After his academic career, Uwe Weinreich initially worked internationally as a consultant. He advised numerous managers and entrepreneurs.

As a manager specializing in digital and innovation strategies, he helped people come together to form self-organized and dynamic teams, taught innovation methods such as Design Thinking and Lean Startup, and coached senior executives in particular. In addition, he has founded four digital companies himself.

The surge in artificial intelligence development at the beginning of this century motivated him to expand his own qualifications through continuing education, including at the Massachusetts Institute of Technology (MIT) in Cambridge, MA, and the Hasso Plattner Institute in Potsdam. Since then, he has contributed to AI projects with a focus on analytics, content creation, and process automation for companies in the pharmaceutical industry, critical infrastructure, banking, and platform business models.

Uwe Weinreich currently leads the company ETB – Empowerment Team Berlin GmbH, which aims to support people in shaping the future in the age of artificial intelligence—strategically, organizationally, and in the development of leaders and teams.