

# Co-creation in Business Practice: Implementing AI together at Eye-Level

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October 2024

# ai:conomics policybrief

## Co-creation in Business Practice: Implementing AI together at Eye-Level

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### Key Take-Aways

- The introduction of artificial intelligence (AI) in business practice requires both the cooperation of several specialist disciplines and a holistic view of the economy, people and society. This interdisciplinary creative space is understood both as an opportunity for innovation and as a complex social challenge ('wicked problem').
- The methodological concept of co-creation brings together different stakeholders to find user-centered solutions and makes it possible to tackle challenges collectively. Co-creation is proposed as a suitable approach for the implementation of AI in business practice, as multi-perspectivity and interdisciplinary expertise can lead to higher quality and acceptance of AI solutions. This creates the potential to not only increase the economic benefits but also enhance the human and societal value.
- Qualitative interviews with representatives from various German companies show that co-creative approaches are already being used in the implementation of AI in business practice. However, some of these are limited to simple forms of participation and communication. Core features of co-creation that go beyond this, such as the early involvement of different stakeholders and the development of joint solutions, are not always met.
- The interviews show that important quality features for successful co-creation, such as working together as equal partners and the courageous testing of new approaches - require low-hierarchy spaces and the development of AI literacy. All practitioners also recommend incremental, creative prototyping to facilitate learning during the AI implementation process. Another success factor is the creation of a corporate culture that actively promotes interdisciplinary, agile collaboration.
- The social impact of AI still receives little attention in individual entrepreneurial AI implementation. The interviews suggest that the focus is more on business and human-centered process design and that there is still little inclusion of perspectives oriented towards the common good.
- Due to rapid technological developments, it can be assumed that AI implementation will have an even more transformative impact on organizational reality in the future. Co-creation will become even more relevant in this scenario, as the extensive change in roles, decision-making, workflows and collaboration requires a joint design by all those involved.



## 1. Introduction

The innovative technology of Artificial Intelligence (AI) is attributed the potential to make a significant contribution to economic growth, societal progress, and the common good. In addition to the international competitiveness of German companies through the successful implementation of AI, the aim is to enable social innovation, particularly in the fields of climate, mobility, health and education (OECD, 2024). The German government considers AI the key technology of the 21st century and is striving to achieve technological sovereignty in the field of AI, particularly through the use and development of *trustworthy AI 'Made in Europe'* (Bundesregierung Deutschland, 2020).

It is therefore of major importance in every application context that the use of AI is designed to be human-centered. With the AI Act (European Commission, 2024), Europe explicitly protects the safety and fundamental rights of citizens in the European Union by establishing clear rules for the development, marketing, and use of AI systems. There are, for example, strict requirements for transparency, safety, and ethical standards to ensure that AI systems do not make discriminatory decisions or violate the personal rights of users.

Therefore, the transfer of AI technology into business practice is only considered successful if it serves both economic efficiency as well as people and society as a whole. To meet this challenge, companies need a methodical approach that addresses all three dimensions. The concept of 'co-creation' has already proven effective in other complex contexts where good solutions require a variety of perspectives. On one hand, the co-creative approach can help companies make their internal AI implementation process more human-centered. On the other hand, it encourages them to consider the societal impacts of AI beyond their immediate scope. Co-creation, with its adaptive approach, is particularly practical for the current focus of many German companies, which are adopting vertical AI-based solutions that are tailored to specific use cases.

This brief dossier contributes to the dissemination of learnings and best practices and is aimed at individuals involved in AI implementation, such as AI project managers, AI transformation officers, innovation managers, organizational developers, and change-makers. As part of the research project *ai:conomic*, that examines the impact of AI implementation on business success and **work realities** through innovative field research, the dossier addresses the growing interest among many cor-

porate representatives in engaging in a deeper exchange about the practical aspects of AI adoption. While a separate publication (Silbernagl et al. 2024) is aimed at decision-makers to support the decision-making process for trustworthy AI technology, this brief aims to provide guidance for practitioners in holistic process design.

In conversations with five practitioners from companies that are implementing AI or consult organizations that do, we explore the extent to which co-creative design is already shaping the processes of AI development and implementation in businesses today. Building on these practical insights, we examine the potential of co-creation that remains untapped in many current AI projects. As authors, we focus on our expertise in co-creation and psychology, drawing on AI expertise from our dialogue with experts.

## 2. Co-Creation


In this chapter, we work on the definition and development of co-creation. In doing so, we define and explore relevant core and quality characteristics, about which we ask our interview partners. Finally, we describe why, from our perspective, the concept of co-creation is relevant and rich in potential for the implementation of AI.

### 2.1 Co-creation - More than just a method

The concept of co-creation originates from marketing and product development and became popular in the early 2000s. The term literally means "joint creation". In this early phase of development, co-creation referred to a methodical approach in which companies create value - often in the form of a particularly customized product - by working together closely with customers (Pralhad & Ramaswamy, 2004). The reason for this development was the challenge that companies traditionally operated in a framework largely isolated from customers. This increased the likelihood that the final product would not meet the customer's needs.

Value co-creation in the narrower sense therefore describes the interaction between companies and customers as a central place for value creation. In this context, value creation is closely linked to economic interests in order to generate more sales through higher customer engagement and a better product fit.

Since its development and extensive testing in product development and marketing, the value of



co-creation as a method for the cross-stakeholder<sup>1</sup> development of new ideas has been proven in many other areas. This spread of the concept has been part of a wider movement towards interactive and innovation-oriented ways of working together.

The turn of the millennium marked a phase of paradigm shift in which the foundations were laid for the current transformation of collaboration in business practice. The focus was on the development and dissemination of several concepts - including co-creation, design thinking, agile working and open innovation - which aim to make innovation and development more effective and efficient. Hence, Co-creation stands in the context of numerous related concepts and a general organizational movement towards more openness, interaction and consciously designed collaboration.

### *Different types of collaboration*

As a result, modes of collaboration have become increasingly important, which has significantly influenced and promoted the spread of co-creative ways of working. We can differentiate ‘collaboration’ more concretely in order to understand which form is helpful for co-creative work. This differentiation is important because varying interpretations of the term in companies can trigger conflicts or innovation barriers.

- **Cooperation** describes a mode in which the involved actors take on and combine clearly defined (partial) tasks and responsibilities.
- **Collaboration** involves intensive, dynamic and long-term cooperation between several people or teams in order to achieve a common goal.
- **Participation** describes the active involvement of people. There is a broad spectrum of involvement and decision-making power, from involvement to creation.

### *Definition*

Co-creation, as used here in its common contemporary understanding, refers to a multi-stakeholder process in which various interest groups—such as

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<sup>1</sup> The term “stakeholder” is used to describe the various interest groups affected by a workflow or decision-making process. These can be located within the acting organization or institution, as well as embodied by external actors. Some stakeholder groups are reliably included in decision-making processes in the form of representation structures, such as the overarching perspective of employees in the form of the works council. Others must be actively involved. The text differentiates between internal and external stakeholders where this serves the purpose of readability.

actors from businesses, universities, the public sector, or civil society, as well as their target audiences—actively contribute to the creation of a shared new outcome, product, or service (Ind & Coates, 2013). Co-creation can be described as an intensive and creative form of participation that requires cooperation or collaboration from stakeholders at various points in time. It is therefore an innovation approach where collective creativity and intelligence are used to unlock a certain potential or solve a specific challenge for which there is currently no (complete) solution. Due to its particular effectiveness in complex contexts, this approach is increasingly being applied not only in product development but also in organizational and societal issues.

Co-creation is based on the conviction that social complexity and diversity of perspectives foster innovation. It is argued that opening up innovation processes leads to rich idea generation, strong commitment, and higher acceptance of the developed solutions by all participants (Prahalad & Ramaswamy, 2004). Other innovation methods, such as the lean innovation approach, focus instead on internal optimization and efficiency through continuous improvements and resource conservation for fast, cost-effective innovation, without integrating external stakeholders (Carayannis & Campbell, 2006).

Co-creation is an adaptive approach that draws on a variety of methods and can be situationally adjusted depending on the context. The best-known methods for jointly developing the target product include the Design Thinking process, Scrum, Kanban, Open Space, World Café, hackathons and fishbowls. Process design requires methodical support for goal setting, expectation management and role clarification. This variety of options makes the approach both demanding and needs-oriented. The process can be emotionally draining, challenging and lengthy. Instead of a standard procedure, there are specific core and quality features that can ensure successful co-creative processes during implementation.

### *Core characteristics of co-creation*

**Core characteristics** are the fundamental, indispensable properties of co-creation. In many participatory approaches that refer to co-creation, these two are not fulfilled.

Co-creation requires **stakeholder participation**: Co-creation is based on the participatory involvement of different stakeholders. Participation first means involvement. This can range from pure communicative integration to an opinion poll and shared decision-making. Co-creation requires a particularly

high degree of participation, in the sense of interdisciplinary collaboration and joint solution development. All participants in the co-creative process must have or be provided with the prerequisites to contribute in a value-adding way.

Co-creation generates **shared value**. At the heart of co-creation is the joint development of value that all participants create together and from which all participants benefit in some way. *Shared value* can be of an economic nature, but does not have to be. The result can also be an education campaign, a mission statement, a community garden or open source software. Value can arise from a solution to a problem that is viable for everyone as well as from shared identity, mutual appreciation or the improvement of working conditions.

### *Quality characteristics of co-creation*

**Quality characteristics** are attributes that make co-creation successful. Through them, co-creative methods can realize their effectiveness.

Co-creation needs **eye level**: Ideally, this takes place both structurally and culturally. This means that roles and power dynamics are distributed in such a way that all stakeholders are able and willing to contribute. This enables direct communication between the participants. Collaborative tools and decision-making methods can thereby replace traditional status and hierarchy. The collaboration is based on the values of empathy and transparency. Through open access to information and a willingness to shift perspectives, each individual can make their best possible contribution.

Co-creation requires **prototyping**: Co-creation has a strong creative element that thrives on collective thinking, trying things out, failing and trying again. Through courageous testing, experimenting and trial and error, collective ideas can be pragmatically visualized and tested. This ensures that co-creation becomes a joint creative process through a shared dialog. People in the co-creative process are actively invited to learn: iterative loops, feedback and moments of reflection ensure continuous improvement. This requires a great deal of flexibility and adaptability.

These quality characteristics generate a positive feedback effect, as they reinforce each other: adaptability, partnership, transparency, empathy, etc., as cultural dimensions are to a certain extent prerequisites for successful co-creation. However, co-creation also ensures that more of these qualities are generated in return.

## 2.2 Co-creation as an opportunity for the complex task of shaping AI

Co-creation has already proven itself in practice. Its successful application ranges from co-creative citizen science research (Senabre Hidalgo et al. 2021) to open source projects such as the community-based IT development moderated by the Mozilla Foundation<sup>2</sup> to stakeholder-based public service innovation (Fox et al. 2019).

Co-creation shows particular potential as a methodological approach for addressing societal issues of great complexity. These often involve so-called 'wicked problems' (Rittel & Webber, 1973): broad, complex challenges characterized by multilayered issues, often unclear in their full scope, and therefore incomplete or even contradictory. In terms of information.

Examples of this type of topics include a discrimination-free education system, comprehensive care for the elderly and reliable information in the digital age. These issues exhibit numerous interdependencies and dependencies, making it impossible for any single person or institution to fully grasp or solve them alone. Addressing wicked problems effectively requires a wealth of ideas, a step-by-step, iterative approach and continuous negotiation of the needs and goals of the many stakeholders involved. Co-creation offers the opportunity to develop holistic solutions that are innovative and/or bring about systemic change (Rittel & Webber, 1973).<sup>3</sup>


The responsible development and use of AI technology can be seen as such a wicked problem: both at a corporate and social level, this task is accompanied by complex challenges, the effects of which we do not yet know today.

### *AI innovation in companies*

AI implementation means enabling machines to learn from data and make independent decisions based on it. This includes applications such as machine learning, which makes predictions, recognizes patterns, and learns autonomously from experiences. 'Generative AI' (GenAI) refers to the ability of an AI to generate new, original content. This to evolve and adapt independently is a key difference to tradition-

<sup>2</sup> <https://www.mozilla.org/en-US/about/manifesto/details/>

<sup>3</sup> The concept of 'wicked problems' was developed in 1973 by the two sociologists Melwin Webber and Horst Rittel in order to address the challenge of socio-political planning in problematic social situations and to develop possible starting points. It has been taken up and further developed many times over the past 50 years, e.g. by describing climate change and its consequences as a "super wicked problem" (Levon et al., 2012).



al software solutions, which are typically static and based on rule-based algorithms.

Every digitalization requires not only technological adjustments but also a change in ways of thinking and working. AI has even greater potential to profoundly alter work roles, which is why its implementation is often marked by high emotional charge and uncertainty (Silbernagl et al. 2024). Therefore, it is crucial to design the economic benefits of the innovation project and the impacts on the newly emerging work contexts in such a way that both the company and its people are equally strengthened.

The development and implementation of AI technology in an existing operational context is, in itself, a challenging innovation effort. From idea generation to implementation to roll-out, the technology transfer goes through various phases that influence each other in iterative loops (Kutzias et al. 2023). Throughout the development and implementation process, the collaboration of numerous stakeholders is necessary to develop sustainable approaches, foster acceptance, and enable informed decision-making.

German companies also face several specific challenges, including compliance with regulatory requirements, identification of meaningful use cases, implementation of implementation strategies and risk assessment (Deloitte, 2024))

We see the great potential of co-creation in these challenges in particular: experts (e.g. for compliance, data protection, governance) bring regulatory and ethical perspectives into the process at the right time. The knowledge of specialist departments becomes accessible, allowing the best use cases of AI to be identified in the respective area of work. The acceptance among employees increases through more tailored, holistic solutions, making the roll-out easier.

### *AI innovation in society*

A second relevant level is the impact of AI on society: How AI is developed and deployed extends beyond the specific application context. Each AI project plays a role in shaping how we design and further develop AI, which risks we actively address, which we accept, and whether we keep the broader, including unintended, effects of the new technology on people, organizations, and society in mind.

Every AI implementation must therefore be viewed as part of a global transformation that impacts societal systems such as the world of work, democracy, or the education sector. Ecological aspects, such as energy and resource use, and individual rights, such as the handling of personal data and the

potential reinforcement of inequality and structural discrimination, also play a key role.

Companies, in their role as social actors and with regard to the ecological, social, and governance criteria of corporate sustainability, are called upon to take responsibility in shaping future technologies. In this spirit, the AI Act of the European Union is designed as a comprehensive framework for the corporate use and development of AI. The responsibility of companies goes beyond merely avoiding harm; it means actively contributing to the common good, as challenges such as climate change, social inequality, and digital transformation can only be solved together. In addition to profitability and the impact on employees, questions of fairness, transparency, and sustainability are emerging as the third key area in the successful implementation of AI in business.

Companies also benefit from this by creating trust, strengthening their reputation, gaining loyal customers and talented employees and promoting innovative and future-proof solutions through ethical and sustainable action. This underlines the fact that sustainable and ethical business practices are not a moral exercise, but a strategic necessity.

### *Hypothesis*


Combining the complexity of corporate implementation with the societal task of responsible technology design, corporate AI implementation can be understood as an individual manifestation of a broader wicked problem.

We aim to explore the qualities of co-creation in today's corporate AI development and implementation and to discover the positive potential of co-creative solution development. Since co-creative stakeholder processes have already proven effective in addressing other complex social challenges, we assume that they will also be helpful for the successful implementation of corporate AI—with positive impacts on economic performance, the people involved, and society as a whole.

### **3. co-creation in the operational practice of AI implementation**

To gain insight into the application of co-creative innovation process design in corporate practice, five semi-structured interviews with practitioners were conducted. These interviews aim to provide insights into current developments and the experiences of organizational representatives with co-creation in AI implementation.





Three of the five interviewees come from the German corporate landscape. This group included a large company with a long tradition and a strong organizational identity, a large IT company operating internationally, and a medium-sized digital company. All three companies have extensive experience in digital transformation and, compared to other German companies, were early adopters in the exploration and implementation of AI-based solutions. The interviewees from the AI-implementing companies were either part of the company's leadership or specialized innovation or change teams focused on AI innovation."

The fourth interview was with an implementation-oriented consultancy specializing in data and AI, which provided the perspective of an external development partner. This allowed for a comparative insight into different corporate contexts. The fifth interview was with a representative of a publicly funded AI service center to gain an impression of the collaboration between science and business stakeholders. Additionally, practical reports from topic-focused discussion events<sup>4</sup> in the first half of 2024, as well as findings and observations from the *ai:conomics* research project are included.

By consolidating and interpreting the experience reports, we aim to gather organizational cultural and structural success factors for the co-creative design of implementation processes and identify good practices.

### 3.1 Co-creative AI projects - a matter of course?

#### *Participation yes, co-creation yes and no*

An initial look at the operational practice of AI implementation might suggest that co-creation is already a lived reality. The interviews with our practitioners show that the involvement of numerous experts and stakeholders has become standard. In all AI projects of the large companies surveyed, and in most of the small and medium-sized enterprises, change managers, AI transformation officers, or organizational developers are integrated. Some organizations report having experienced negative consequences due to a lack of participation in change processes and are now consciously doing things differently.

Upon closer inspection, we can observe that participation is the natural element. However, the extent to which more advanced co-creative qualities—such as proactive stakeholder involvement, eye level, and experimentation—are present varies significantly from case to case. The degree of organizational cultural development toward agility appears to play a key role. Additionally, the industry, company size, and the individuals involved, both in operational and leadership roles, have a substantial influence. Finally, the frequency and consistency of co-creation seem to differ depending on the phase of development and implementation the AI application is in.

#### *Core characteristic 'stakeholder participation' in practice*

Anyone looking at the processes of AI development and implementation in companies envisions a diverse range of competencies. While IT professionals bring domain knowledge about the technological aspects of AI, expert knowledge from the relevant departments is equally necessary to develop meaningful use cases for AI. Employees who will work with AI in the future can contribute their perspective to maintain or, ideally, improve the quality of their workplaces. One interviewee specifically mentioned that highly engaged or long-term employees are valuable partners: their thinking, which goes beyond their own needs in favor of the overall organization, helps create more tailored solutions.

Furthermore, different stages of the development and implementation process require a variety of expert opinions and guidelines, for example, in law, data protection and cybersecurity, strategy, ethics, change management, and communication. If a roll-out spans multiple countries and regions, localization issues also come into play. All interviewees emphasized this holistic perspective: AI implementation is seen as a team effort that cannot be managed by a single profession alone.

Two interviewees mentioned that the selection and involvement of stakeholders happen intuitively and situationally, depending on which group of people can make a relevant and productive contribution. In other cases, it was reported that stakeholder integration is process-driven, depending on which group needs to be involved at a certain point in time. It is particularly interesting to consider from which perspective and role it is decided what constitutes a 'relevant contribution' and when the 'right time' for it is.

Several interviewees shared that the circle of stakeholders is deliberately kept small at the beginning of the ideation phase in order to give creativity

<sup>4</sup> e.g. ai:conomics [Dialogue Forum](#), 14.3.2024, Berlin; [Tagesspiegel Roundtable](#): "Mittelstand.AI", 16.05.2024, Berlin; CDX24 - Culture Development Experience of the Otto Group: [What does AI do to our culture?](#) June 24, 2024, online.



and innovation sufficient space. This reflects the conviction that many stakeholders with different perspectives make the process complicated. At the beginning, the circle of stakeholders usually consists of specialist departments and developers with AI technology expertise. All three companies reported that during the prototyping phase, use cases are collected in the specialist departments in which AI can be tested and developed. The goal is to spark enthusiasm for AI by creating low-barrier opportunities for experimentation, without stifling innovation through immediate reality checks. Conflicts of interest and divergent needs are often not yet visible in this phase.

Scaled AI applications bring about significant changes in organizational structure and culture, creating a need for the involvement of numerous internal stakeholders. This is further complemented by legal participation requirements and the necessary inclusion of additional experts, such as those for reviewing legal regulations or cybersecurity. Two interviewees reported that the implementation phase, compared to the ideation phase, presents more challenges. Feasibility analyses and budgets, as well as the needs of the works council, data protection experts, and legal teams, broaden the playing field. According to a project manager, these roles were sometimes seen as restrictive, slowing down innovation and progress. As a result, these stakeholders were sometimes brought into the AI process late (e.g., when it became formally necessary), which meant that their perspectives were not integrated into the solutions from the beginning.

Companies can seize the opportunity here to think about the process from the end, to venture transparent and open process communication and to establish a well-connected ecosystem with various stakeholders at an early stage. The earlier a stakeholder is involved in a communicative and collaborative manner, the greater the likelihood that the process will not stall at a later stage. Thereby, on the one hand, it can be important to actively listen in order to take professionally justified objections as well as organizational obstacles, personal fears and needs seriously. On the other hand, participation needs early and consistent space and support so that the relevant stakeholders can engage with the issues and make meaningful contributions.

Due to the diversity of voices, internal hierarchies and decision-making systems, the interviewees from large companies recommend consciously shaping the process of collaboration at an early stage. Co-creation can only emerge when broad stakeholder participation is transformed from an obligation into

an invitation that integrates divergent interests and accompanies change through meaningful negotiation instead of pressure.

### *Core characteristic 'Shared Value' in practice*

Beyond the involvement of different stakeholders, the focus of co-creation is on a jointly developed result that adds value from all perspectives. Stakeholder participation is fundamental, but not sufficient for the creation of shared value, as an example from the collaboration between science and companies shows: In the interview, it was reported how the stakeholders involved in an AI development defined their own target values, which they then implemented in a kind of exchange: While some benefited from the AI solution itself and its application, others were able to analyze data.

This transactional form of collaboration can also occur within an organization or between other organizations if there is a diverse landscape of interests. However, the joint creative aspiration is less pronounced and the result is less likely to connect the stakeholders in the long term than a co-creative focus on shared value. Especially in contexts in which no shared value is created, a partnership-based relationship between stakeholders is essential. The interviewee from the SME sector reports that check-ins or retrospectives are useful for reflecting on roles, values and working methods.

Another interview made it clear that the quality of *shared value* can be the explicit goal of consciously managed collaboration between specialist departments, programmers and interface roles. In the examples of AI implementation mentioned by one of the companies surveyed, different perspectives, ambivalent values or conflicting goals were seen as meaningful contributions to the search for solutions. The aim was to achieve integrative overall results that would make things better for everyone.

All of the companies surveyed see the design of the new working environment created by the AI application as a key component of co-creative solution development. For example, the employees who will be affected in the future are involved in the design of the technology and its application in stakeholder workshops. In this way, solutions are formed during the design phase that align with the concept of shared value, benefiting both the company's profitability and the quality of work for employees.



### A question of maturity and complexity

How stakeholder participation is put into practice and whether the focus on shared value emerges naturally in the course of AI development and implementation appears to depend largely on corporate practice and organizational structures.

Companies that already embrace a culture of change report co-creation as a natural way of working. One of the interviewed medium-sized companies, which has actively invested in organizational development for years, built agile structures, and actively promotes networking through interface roles, considered it self-evident that AI solutions would be developed together with customers, developers, and technical experts. There was less of a dogma that everyone should be integrated at a certain point in time than a holistic way of thinking about when which role should be involved..

Large organizations are often confronted with a complex stakeholder landscape and are less free in their scope of action due to internal and external frameworks. Co-creation must be given intentional space in such environments. Standardized innovation processes designed for participation and interface roles responsible for process facilitation can actively ensure that the change process associated with AI implementation emphasizes a learning culture and co-creative formats.

### 3.2 Lived Quality of co-creative AI projects

More than with the core characteristics of co-creation, companies are consciously addressing the quality characteristics of collaboration. Many interviewees report similar hurdles and solutions when implementing AI projects.

#### Quality characteristic 'eye level' in practice

Theory suggests that all involved stakeholders must work together at eye level. In the interviews the importance of this level playing field was confirmed. To ensure this in participatory and co-creative AI implementation, it is particularly important to consider two factors:

#### Developing AI literacy

LLM, data quality, compute - AI comes with its own vocabulary and content requirements. In order to design the application of the technology and assess its impact, a basic understanding of its functions is required. The term *AI literacy* refers to this understanding and the associated competence in dealing with AI. *AI literacy* thus refers to the basic stock of information that makes it possible to assess the

needs, potential and limitations of AI applications and link them to one's own work. Both form the prerequisite for co-creative co-design of an AI solution in the company.

In practice, there is usually a gap in *AI literacy* between technical specialists and innovation managers on the one hand and non-technical employees and managers on the other, which leads to the emergence of an implicit hierarchy.


The interviewees consistently advise actively addressing this implicit hierarchy. If the goal is to continuously improve *AI literacy* across the organization, interactive and regular training is worthwhile, especially given the short half-life of AI-related knowledge. One organization reports a mixture of playful, active workshops in which AI tools are tried out, paired with weekly digital knowledge nuggets for all interested employees.

One interviewee recommends using IT specialists with communication skills as trainers for workshops and training sessions in specific change initiatives involving AI. These experts can respond flexibly to questions because they really understand the technology. In addition to technical understanding, the focus is also on a digital mindset, which makes it easier to identify use cases for AI. Traditional in-house training, suggested readings or presentations by external service providers, on the other hand, have proven to be less effective. Another interviewee described the positive side effect that these events are often used to ask other technical questions relevant to everyday life in addition to AI-specific questions, which simplifies the employees' workflow.

For change makers, it is relevant to reflect on the fact that not everyone has the same prerequisites for building their *AI literacy*: Digital natives or people with previous technical experience, people with a high level of education and access to continuous training are at an advantage, to name just a few examples. In order to avoid blocking access to the co-creative co-design of AI solutions through structural inequality and to invite a diversity of perspectives, companies can consciously pay attention to an open, empowering approach to skills gaps and a lack of *AI literacy*. Some companies talk about inviting a "conscious feeling of positive overload". To do this, they build spaces where it feels safe not to know everything.

#### Reducing hierarchies in a co-creative context

In addition to unequal levels of knowledge about AI, power dynamics and hierarchies within the or-



ganization can also hinder the level playing field that is central to co-creative collaboration. The fact that AI is set as a strategically central innovation topic by company management in many organizations is perceived as backing and positive creative space.

In addition to this ‘reinforcement from above’, one interviewee at describes how crucial it is that the managers in charge of the respective AI project know and recognize the value of participatory and co-creative collaboration across departmental and hierarchical boundaries. Similar to the development of *AI literacy*, the company invests in preparatory training measures to strengthen *participation literacy*. In hierarchical settings, it is especially important to pay attention to psychological safety and to foster a culture of learning from mistakes, where people feel they are treated as equals.

In large enterprises with strong departmental structures and steep hierarchies, innovation systems can help establish low-hierarchy spaces where diverse perspectives can interact more freely. For example, one large company reports having a cross-location pool of experts on process and compliance issues who can be contacted for initial sparring and brainstorming as early as the ideation phase, long before formal reviews take place.

A typical situation for AI projects in which working together at eye level is at risk is the interaction between external developers and clients. A shortage of resources, time pressure, a lack of communication and a client-provider hierarchy can quickly strain the relationship dynamics and collaboration. The result is pseudo-co-creation in which personal interests or critical professional assessments are not openly expressed.

Long-term partnerships and shared spaces for reflection can help establish a common understanding and a conflict culture, even in challenging moments. Two interviewees from companies found it beneficial to have technological development expertise represented internally, as this means that a resilient collaboration culture does not need to be built externally, tech know-how is readily and budget-neutrally accessible in the early stages, and the “thinking for the company” is also embedded in IT expertise. On the other hand, the methods and protected space of externally facilitated workshops and ideation processes can support developing creativity beyond day-to-day topics and discovering untapped innovation potential.

### *Quality characteristic ‘Prototyping’ in practice*

The practical insights confirm that AI implementation requires the creative and playful approach that characterizes co-creative working methods. As outlined in 3.1, creative development spaces are deliberately preserved by conducting feasibility studies, reality checks, and comprehensive integration of organizational stakeholders only after the ideation phase. This allows ideas to be freely explored and tested. On the other hand, early stakeholder participation can also unleash creative potential. Interviewees reported value-adding and inspiring negotiations with the works council, which can lead to significant improvements for the solution.

Iterative learning and creative testing are needed not only at the beginning but throughout the entire implementation process. One key reason for this is the rapid pace of change in this field. What doesn’t work today might work tomorrow. Therefore, companies need flexible and iterative loops that can continuously respond to new capabilities of AI technologies—even beyond the implementation and roll-out of a new approach. One interviewee specifically noted that their biggest learning was to take even smaller, iterative steps and experiment more before committing to a particular path. This helps avoid costly investments in AI solutions that may already be outdated or not suitable for all stakeholders by the time they are rolled out.

To maintain a positive innovation energy throughout the entire development and implementation process, several interviewees recommend focusing integration efforts on curious and AI-open individuals within the organization. Front-runners, influencers, and multipliers ensure that positive examples become well-known within the organization and help reduce apprehensions. AI communities and workshops encourage voluntary engagement with AI. It is less important for everyone in the organization to become AI-savvy, but rather that there are people across the organization who understand the basic principles of AI and are eager to work with them.

Process facilitators for AI implementation have the important task of finding a good balance to ensure that openness, creativity, experimentation, and the negotiation of needs are maintained throughout the entire process.

## 4. Potentials for successful AI projects

The dialog with practitioners has shown that co-creative thinking and methodology are already a lived reality. At the same time, a great potential was identified to build more competence around co-creative work in order to improve the quality of AI projects. In the following, we will highlight observations and patterns and reflect on our hypotheses. We will conclude with an outlook on the co-creative design of AI implementation in the future.

### 4.1 Success factors

The interviewees provide specific recommendations on which topics to focus on in the context of AI implementation when working from a co-creative approach:

#### *5 elements of successful co-creation for AI implementation (graphic)*

1. Strengthen a corporate culture that actively promotes interdisciplinary, agile collaboration
2. Involve stakeholders from various specialist disciplines early in the development process
3. Create a level playing field through low-hierarchy spaces & AI literacy
4. Establish safe and learning-oriented spaces to experiment, test, and discard ideas early on
5. Developing AI solutions together and holistically - instead of just “including everyone”

#### *Corporate culture as the basis for co-creative work*

Companies are aware that digitalization not only requires technical adjustments, but also entails far-reaching changes in corporate culture and work processes. The implementation of AI technologies seems to entail even faster and more profound changes than digitalization processes with non-AI software. Specifically, incremental innovations from AI in the form of updates and new features occur more frequently and rapidly than previously typical for software. Organizations therefore need a collective approach to constant change and unpredictability. In a study by Brock and von Wangenheim (2019), managers emphasized the importance of organizational agility, specialist personnel, leadership and a supportive corporate culture as key factors for the successful integration of AI.

In our interviews, all interviewees agreed: AI & digitalization mean (lifelong) learning. For this to succeed, two things are needed: first, the organ-

izational context, e.g. open dialogue spaces and cross-hierarchical and cross-departmental collaboration. Second, collective competencies are needed to leverage this context for innovation. Among the general transformation and innovation competencies (such as communication skills), some are particularly essential for co-creative AI implementation. For co-creation, diversity awareness and the ability to deal with conflict when working with stakeholders are particularly important. Among other things, the competence of role fluidity will become relevant in AI implementation: The ability to continuously develop or change roles.

The conversations revealed that leadership plays an important role in implementation. It is essential that AI projects receive adequate support from leadership in the form of backing, strategic integration, and resources. Compared to other transformation initiatives, however, the term ‘leadership’ was mentioned less prominently as a critical factor. We suspect that the significant transformation for leaders is yet to come: AI technologies will require new forms of decision-making and responsibility-taking. At the same time, routine tasks can be replaced, creating more space for strategic thinking and personnel management. Organizations can gain a competitive advantage by providing early training for their leaders.


The complexity of AI implementation is not reduced by learning these skills, but there is a different way of dealing with the unknown, new and ambivalent that is less overwhelming.

#### *Integrating the social dimension*

The companies included in the study understood successful AI implementation as one that benefits economic success. Companies are investing heavily in AI in order to gain a competitive advantages, increase efficiency and develop new business models. Resources are also dedicated to shaping a positive and productive work environment for employees.

The third dimension of success, which focuses on the social effects, seems to have received little attention so far in the design and implementation of corporate AI. This means that companies, as key players in technology development, are only addressing the micro level of the *wicked problem* of AI. The macro-level—where a future technology is co-created in practice through its actual application—remains largely overlooked (see Chapter 2.4).

The EU AI Act (European Commission, 2024) is the first major regulatory framework to make social and individual risks the subject of AI development and design. It goes hand in hand with the internal



work on ethics guidelines that many companies are working on. According to our interviewees, the compliance department is monitoring compliance with the AI Act.

In terms of co-creative quality, it is recommended at this point that the new regulatory requirements be seen as an opportunity to bring the social dimension into the process. Internal and external experts in AI ethics can be brought on board as co-creative partners at an early stage. Not to control compliance, but to strengthen the quality of the future solution. At eye level, playfully, in search of the *shared value* for business, people and society.

### *Utilizing synergies across systems*

For the societal dimension to gain more prominence, it is necessary to look beyond organizational boundaries. When co-creative qualities emerge during AI implementation, they currently take place predominantly within business enterprises, according to the collected reports. Cross-organizational dialogue occurs mainly in the form of experience exchange at conferences and events. Collaborations or co-creation between organizations appear to be rare. Companies could look beyond their own horizons and shape the AI process together with the broader ecosystem.

The fact that this idea has already taken root in practice is demonstrated by the growth of collaborations between different disciplines, such as between business and academia. In 2024, the Fraunhofer Institutes alone has over 400 ongoing collaborations with universities and industrial companies to develop and implement AI technologies (Fraunhofer-Gesellschaft, 2024). In addition, there are currently over 50 regional innovation centers in Germany that are specifically geared towards promoting AI innovation between universities and companies (EduRank, 2024).

According to our interviewee, however, it is structurally not easy to organize transfer cooperations in a co-creative quality. Our interviewee from an AI service center cited European competition law as an obstructive factor that makes it difficult to facilitate co-creation and free advice for companies. In one example mentioned, the current collaboration is transactional: the institute has a specific research interest and certain requirements (e.g. open source, data protection, etc.), while the company is interested in a resource-efficient AI solution. For the collaboration, it can be helpful to consciously reflect on the dynamics that may arise from the absence of a *shared value* as a connecting point. The insights into collaboration between science and business gained

as part of the field research work in the ai:conomics project can provide valuable suggestions here (Fleck & Fregin, 2024)

### *4.2 Co-creative AI implementation - looking to the future*


The starting point of this publication is that AI is seen and addressed in practice as a ‘wicked problem’ due to its multidimensional impact on organizations and society. However, practical insights show that the current transfer of AI technology among our interviewees is largely focused on optimizing the status quo. The aim is to improve workflows and explore new business areas, which means that the complexity of the process is still manageable.<sup>5</sup> In this dimension of application, the transformative character of AI is not yet fully realized. This impression is also confirmed by recent studies, which emphasize that efficiency and productivity gains remain the main benefits currently being sought through the implementation of generative AI (Deloitte, 2024).

Whether it is an AI-supported technology or another type of software is sometimes less significant than the prior experience that individuals and organizations have with technological innovation and agile change. For an IT company, the leap from a digital tool to an AI-based tool is smaller than for a comparable company in an unrelated industry transitioning from isolated to system-integrated IT infrastructure. According to the interviewees, AI implementation is still viewed as a traditional change process aimed at a planned—and plannable—(partial) transformation (Harvard Business School, 2020). Co-creation in its full qualitative manifestation is currently still more situational or arises as a by-product of particularly agile organizational cultures.

### *We are only at the beginning*

One interview partner shares that he is convinced that the disruptive and transformative power of AI is yet to unfold. According to the report ‘The State of AI 2024’, the use of generative AI in companies has doubled compared to 2023. Three quarters of the executives surveyed expect GenAI to significantly change their industry in the coming years. Between 2022 and 2024 alone, investments in generative AI increased almost eightfold (Stanford University, 2024). If this trend continues, it can be assumed

<sup>5</sup> This observation is consistent with recent studies that show that European companies, especially in the DACH region (Germany, Austria, Switzerland), are focusing their AI innovation on optimizing business processes and creating new business opportunities (Stanford University, 2024)



that the development of AI will entail an extensive transformation process for German companies in the coming years.

Transformation refers to a fundamental change in the DNA of an overall system (e.g. an organization), which means a change in the pattern of structures, processes and culture. It is so profound that it creates new ways of thinking and behaving that cannot be reversed. The courage for profound, systemic transformation is the biggest difference compared to traditional change, which is based on predictable steps. Whether it's cultural change, leadership, sustainability, or digitalization—deep transformation is essential for many companies to succeed and remain relevant in future markets. In the context of AI, this means, among other things, a significant transformation of roles, working methods, and decision-making processes.

We are currently still experiencing the leap from (process) optimization to change. In the near future, AI is expected to change identity-forming aspects of work such as knowledge, expertise, creativity, decision-making and collaboration across all organizations. This leap from change to transformation will require quality development from participation to co-creation. Navigating this form of complex change requires a large number of stakeholders who are equally integrated in the development of solutions.

## 5 Conclusion

The in-depth exploration of the theory and practice of co-creation in the context of AI implementation has shown, on the one hand, that companies already benefit from co-creative working methods and can share exciting best practices for implementation. On the other hand, there is still a great deal of untapped and necessary potential in the co-creation approach to bring even more quality into AI innovation processes.

The practical insight has confirmed that co-creation is a suitable concept for shaping AI processes in emotionally complex and constantly changing multi-stakeholder contexts. AI implementation is proven to be a complex team sport that requires different perspectives and specialist disciplines. Companies are increasingly focusing on vertical AI applications. In doing so, they can benefit from an adaptive methodological approach that enables them to tailor AI technologies to their specific needs. Co-creation provides ample orientation through an open framework of attitudes, core characteristics and quality characteristics from which concrete success factors for successful AI implementation can be derived.

Considering the potential impact of AI not only on the labor market but also on society highlights the need for transdisciplinary responsibility beyond company boundaries.



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