

How artificial intelligence is transforming project management

Artificial intelligence (AI for short) is increasingly changing the world of work - tools such as ChatGPT or Google Bard are penetrating ever new areas. This leads to two contrasting effects - on the one hand, various work steps can be carried out entirely by AI applications in the future, and on the other hand, the development process of new AI applications creates additional, but much more demanding jobs - especially in the technical field. This trend will also revolutionize project management. According to studies, around 80 percent of all traditional project management tasks of an organizational and strategic nature could be taken over by smart systems as early as 2030.

According to unanimous studies, AI will establish itself as the project tool of the future, particularly in the area of hybrid project management. As a learning system, AI analyzes the structure and implementation of projects. It also develops potential weak points. Project management can intervene here, which means it is much less involved in the respective situation analysis. Learning systems based on AI are already supporting data analysis today. However, more and more AI solutions are coming onto the market that optimize project planning over time and demonstrate a high level of precision, efficiency and forward planning.

AI in project management is used in very different fields. For example, it is an integral part of project forecasting, contributes to automated resource management, supports risk management within projects and thus promotes efficiency. Overall, it can be said that the merging of project management with AI solutions should not be dismissed as a trend. Rather, it is an evolutionary development with the potential to fundamentally change the management and control of projects. Companies should therefore rise to the challenge of integration and make full use of the potential it offers.

AI in project management - these things have to be right

In the age of big data, it is necessary to make all the required data usable for machine learning. In this role, computer scientists play an important part as they have to shape the technological transition. The following requirements apply to the data:

- All raw data must first be collected and then cleansed. It is necessary to make it readable for the computer. This phase is crucial for the efficient use of AI tools in project management.
- Both project managers and IT experts will increasingly work with AI-based solutions in the future, so they need to learn how to use these tools correctly. To be successful, AI-based solutions must also be appropriately integrated into the workflow.
- To ensure cyber security and data protection in the company, an analysis of potential risks - such as the emergence of data leaks and potential threats - must be carried out. AI therefore presents project owners with new challenges.
- The individual roles of project team members are changing as a result of the use of AI. Even if most project stakeholders today can deal with the challenges of the technology, they still need to prepare for them.
- The ethical consequences of AI in project management also need to be considered. If AI tools are used, it is important to ensure that neither transparency nor a sense of responsibility and humanity are compromised during implementation.

Even though technology is certainly the main driver of AI and the technical prerequisites must be right, the harmonious interaction of all project participants - people and companies as well as technology - is also responsible for the successful completion of the project.

AI in project management - more than just a trend

The integration of AI in project management is an evolutionary development that is revolutionizing project management from the ground up. The changeover is a real challenge for many, but it is worth facing up to the challenges. After all, project management is constantly changing and transformations in structure and control are almost part of everyday life. However, each project role is affected differently, which is why an overview is provided here that breaks down the possibilities of AI by project role:

The project manager benefits significantly from the automation possibilities offered by AI, as data can be analyzed and compressed more quickly. At the same time, the risks associated with the implementation of a project can be significantly reduced. The costs of implementing the project are reduced and the project duration is shortened. Success analysis is also supported by the use of AI solutions.

Both project staff and external service providers benefit above all from the automation of the processing of monotonous, repetitive tasks. This frees up time, and the external service providers involved can plan their resources better. The project team can focus on the important tasks and the service providers can help shape the project more efficiently.

The managing director of a company benefits from the flood of reports on the project status in real time. At the same time, they receive warnings about potential risks and can view problems in project implementation. AI tools support the analysis of completed projects and provide automatic suggestions for optimization.

However, the maxim of AI tools is and remains that the automation achieved with the tools should be used to support people, not replace them. Everyone involved should be aware of this. Human soft skills such as teamwork, empathy, moral values and cooperation between all those involved in the project are still the factors that ensure success during implementation. Such AI tools primarily help to complete even complex projects faster and more effectively in day-to-day work.

AI is also creating a new job profile - the AI project manager. They are experts in the diverse integration of AI solutions. They specialize in implementing AI solutions in the company in such a way that suitable project activities run automatically. They have a broad knowledge of AI and are familiar with various data analysis and risk management techniques. They also have a feel for modern technologies and trends and are open to innovative solutions. At the core, however, is the idea of automation, which aims to make project management more efficient and secure.

Opportunities to optimize project management with AI

In the near future, AI will be firmly established in project management in many companies in order to benefit from the diverse potential for improvement in the control and management of projects. For example, AI solutions can be used to make decision-making within projects more targeted. AI can detect anomalies in data sets in real time and alert project managers to them. They also collect large

volumes of data and put them into the right context. In addition, AI is able to quickly and reliably recognize patterns even in large amounts of data that could change the course of the project for the worse and need to be changed.

Thanks to their underlying algorithms, AI tools can enable more targeted risk management in project management. This is due to the extremely high data processing capacities of AI tools. In the context of risk management, the use of special AI tools is particularly worthwhile in the forecasting of costs and work duration, the early identification of impending problems or difficulties within the project, the development of efficient risk avoidance and control measures and improved knowledge management, which goes hand in hand with better acceptance. As these points are recognized at an early stage, those responsible can react promptly.

Special AI tools support efficient resource planning within the project, which can lead to significant time savings. Requirements are identified and scheduling can be adjusted. When used efficiently, project performance can also be positively influenced in terms of financial planning and resource quantities. In more detail, this means optimal allocation of resources, identification of the right qualifications for the tasks to be completed and targeted training of the employees involved. Project productivity is increased through the more targeted work of employees. Employee satisfaction in day-to-day project work increases as their personal workload limits are adhered to.

The use of AI in project management undoubtedly has many advantages for everyone involved in the project. Nevertheless, it is necessary to explore the ethical boundaries of project management using AI. This factor primarily relates to the framework conditions and deals with where the line should be drawn between the machine intelligence of AI and human judgment. At the same time, the question must be answered as to whether the use of AI takes the well-being of all parties involved into account to the same extent. Basically, it is about balance and concern for the value and dignity of people. Algorithms can be very helpful, but they cannot replace human emotions and intuition.

Future of AI in project management

The tasks in project management will certainly shift and more and more tasks will then be taken over by AI tools. AI tools will take over more and more activities that make up the core of project management, especially in the areas of searching, planning, optimizing and drawing logical conclusions. The software is a great help for project managers, as it will be able to adopt general rules in project planning and control. The software uses classic parameters such as time, costs and quality to make suggestions for optimization. The AI-based tool provides the appropriate documents and data for efficient processing.

Despite the many advantages that the use of AI has to offer in project management and despite the constant improvements in the quality of AI tools, humans will remain irreplaceable in the future. However, the job description of a project manager of the future will look different. Soft skills - namely the ability to resolve conflicts, be creative and recognize and implement innovations - will become increasingly important. Only humans have these skills, machines will never have them. In future, the balance of power will be shaped by human qualities such as empathy, creativity and flexibility. Project management will therefore change significantly, but humans will retain the upper hand.