

ARTIFICIAL INTELLIGENCE IN IT PROJECT MANAGEMENT

In the ever-changing environment of information technology (IT) project management, the integration of artificial intelligence (AI) has become a transformative force. As organizations strive to improve the efficiency, accuracy, and decision-making processes of their projects, artificial intelligence technologies offer a promising solution.

The aim of this survey is to explore the impact of AI on IT project management.

The aim is realized in the following tasks: figure out the role of artificial intelligence in the modern world, why AI is important in IT project management, what technical aspects you need to use it and identify the prospects for the development of AI in IT project management.

The subject of the research is artificial intelligence in IT project management.

The object of the research is people over 18 years old.

The hypothesis: AI helps to manage IT projects more efficiently.

The role of artificial intelligence in the modern world

Artificial intelligence, or AI, is technology that enables computers and machines to simulate human intelligence and problem-solving capabilities [8].

As a field of computer science, artificial intelligence includes machine learning and deep self-learning. This involves the development of artificial intelligence algorithms modeled after the human brain's decision-making, which can "learn" from available data and make increasingly accurate classifications or predictions over time.

Some key roles of AI in the modern world include:

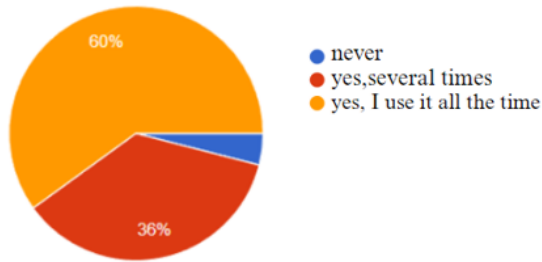
1. Automation: AI enables automation of repetitive tasks. It can perform tasks such as data entry, customer service, and process optimization without human intervention.
2. Healthcare: Artificial intelligence provides faster and more accurate diagnosis, customized treatment plans and predictive analytics for disease prevention.
3. Autonomous Vehicles: AI powers autonomous vehicles by enabling them to perceive their environment, make decisions, and navigate safely.
4. Financial Services: AI is used in the financial sector for fraud detection, risk assessment, algorithmic trading, and customer service (chatbots, robo-advisors).
5. Natural Language Processing (NLP): NLP enables machines to understand, interpret, and generate human language. Virtual assistants like Siri, Alexa, and Google Assistant use NLP to interact with users through voice commands.
6. Cybersecurity: AI helps detect and prevent cyber threats by analyzing patterns in network traffic, identifying anomalies, and responding to security incidents in real-time.

Overall, AI's role in the modern world is vast and diverse, driving innovation, efficiency, and new possibilities across industries and domains.

Sociological survey

The majority of respondents have ever used AI. More than sixty percent of the respondents said that they use AI regularly.

Have you ever used artificial intelligence?



How often do you use AI?

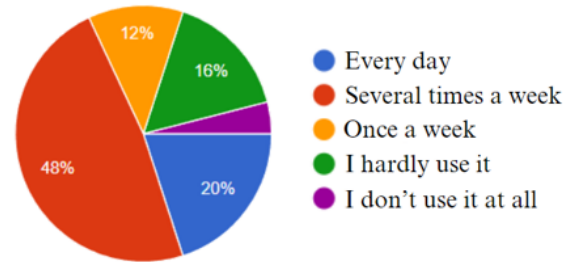


Fig. 1 How often do you use AI?

Most people use Artificial Intelligence for study assignments and writing articles, coursework and essays.

What did you use Artificial Intelligence for?

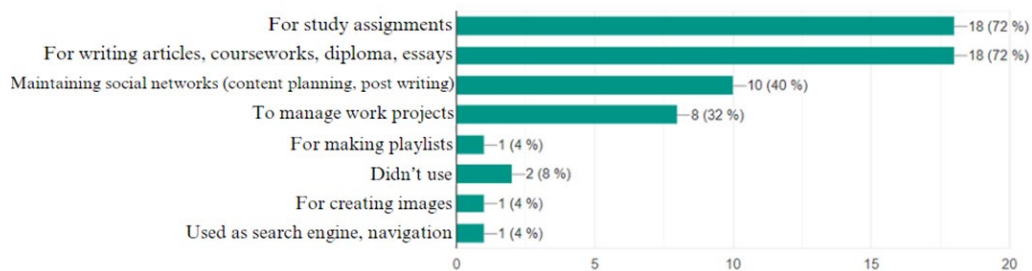
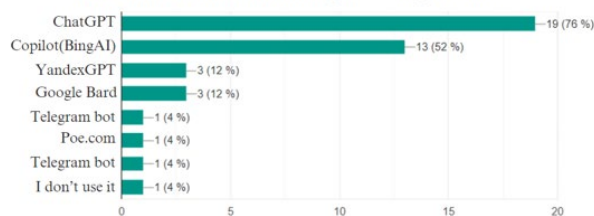


Fig. 2 What did you use AI for?

The leader among artificial intelligences, according to the respondents, is chatGPT. The second place is taken by Microsoft's Copilot (BingAI). And eighty percent of people discover AI from the Internet.

What kind of artificial intelligence did you use?



How did you discover this AI?



Fig. 3 What kind of AI did you use?

Most people have never used artificial intelligence for project management. But more than ten percent of the respondents often use AI for IT project management.

Have you ever used AI for project management?

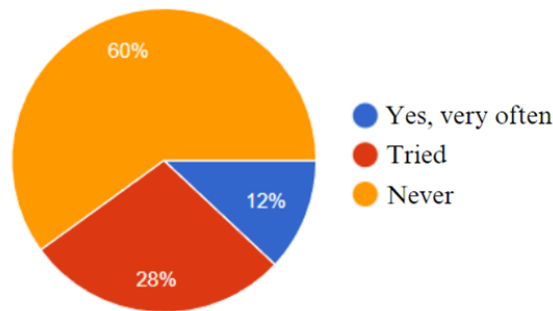


Fig. 4 Have you ever use AI for project management?

Technical aspects of the use of artificial intelligence

The technical aspects of the use of artificial intelligence (AI) involve a range of concepts, techniques, algorithms, and tools that enable machines to mimic human cognitive functions such as learning, reasoning, problem-solving, perception, and decision-making. Here are some key technical aspects of AI:

1. Machine Learning is a variety of AI that focuses on developing algorithms and models that allow machines to learn from data and make predictions or decisions without being straightly programmed.
2. Neural Networks are computational models inspired by the structure and function of the human brain.
3. Natural Language Processing (NLP) techniques such as text analysis, sentiment analysis, language translation, and speech recognition are used in NLP applications.
4. Computer Vision is a field of AI that enables machines to interpret and analyze visual information from images or videos.
5. Data Preprocessing involves cleaning, transforming, and preparing raw data for AI model training.
6. Ethical Considerations in AI involve addressing issues such as bias, fairness, transparency, accountability, privacy, and security in AI systems.

These technical aspects of AI provide a foundation for understanding how artificial intelligence works and how it can be applied in various domains to solve complex problems and drive innovation. Continual advancements in AI research and technology continue to expand the capabilities and applications of artificial intelligence in the modern world.

The efficiency of using AI in IT project management

Artificial intelligence has become a key technology that can enhance efficiency and productivity for project managers and teams. This allows project leaders to focus on more strategic, creative responsibilities that drive success [5].

Using AI in IT project management can greatly increase efficiency in several ways:

1. Automating administrative tasks. AI tools can automate routine tasks such as scheduling, resource allocation, and progress tracking, freeing up project managers to focus on more strategic aspects of the project.
2. Predictive analytics. AI algorithms can analyze historical project data to predict potential risks and delays, allowing project managers to proactively address issues before they impact the project timeline.
3. Resource optimization: AI can help optimize resource allocation by analyzing team member availability, skill sets, and workload to ensure that the right resources are assigned to the right tasks at the right time.
4. Communication and Collaboration. Artificial Intelligence also has the capability to automate communication and collaboration tasks among project team members, facilitating activities such as real-time project status updates, organizing meetings, and language translation, as well as summarizing documents.

Generally, using AI in IT project management can lead to faster project delivery, better resource utilization, and more successful project outcomes.

The future of AI in IT Project Management

As AI continues to advance, its impact on society is expected to grow exponentially, shaping the future of technology and human interaction. The potential of AI in project management is vast and promising. As technology continues to advance, we can expect to see even more sophisticated AI-powered tools and capabilities in the future [4]. Some future trends in AI-powered project management include the use of natural language processing for voice-activated project management, the integration of AI with IoT devices for real-time data collection and analysis, and the use of AI-powered virtual assistants for project management support. AI can automate the generation of project reports, dashboards, and status updates by aggregating and analyzing project data from multiple sources.

Overall, the future of AI in IT project management holds great potential for driving innovation, efficiency, and success in project delivery. By embracing AI technologies and leveraging their capabilities effectively, project managers can overcome challenges, optimize performance, and achieve better outcomes in an increasingly complex and dynamic IT landscape.

In conclusion, AI has the potential to revolutionize project management by automating tasks, improving decision-making, enhancing collaboration, and mitigating risks. By leveraging the power of AI, project managers can streamline processes, improve efficiency, and achieve better project outcomes. However, it is important to approach the implementation of AI in project management with careful planning and consideration. By following best practices and continuously monitoring and evaluating the effectiveness of AI-powered tools, organizations can harness the full potential of AI in project management and stay ahead in an increasingly competitive landscape.

References

1. AI and the Future of Work: The Impact on Project Management [Electronic resource] / Ahmed M. Salad // Journal of Business Research. – Somalia, 2023. – 40 p. – Mode of access: <https://www.linkedin.com/pulse/impact-artificial-intelligence-future-project-management-salad>. – Date of access: 10.04.2024.
2. Artificial intelligence – Wikipedia [Electronic resource]. – Mode of access: https://en.wikipedia.org/wiki/Artificial_intelligence. – Date of access: 29.03.2024.
3. How AI is Transforming IT Project Management / Peter Kestenholz. – Forbes, 2023.
4. How AI Will Transform Project Management [Electronic resource]. – Mode of access: <https://hbr.org/2023/02/how-ai-will-transform-project-management>. – Date of access: 15.04.2024.
5. Revolutionizing Efficiency: Using AI in Project Management [Electronic resource]. – Mode of access: <https://www.leadfuze.com/using-ai-in-project-management/>. – Date of access: 15.04.2024.
6. The Benefits of AI in Project Management: A Comprehensive Guide [Electronic resource]. – Mode of access: <https://medium.com/@rickspair/the-benefits-of-ai-in-project-management-a-comprehensive-guide>. – Date of access: 14.04.2024.
7. The Role of AI in Enhancing Project Management Efficiency [Electronic resource]. – Mode of access: <https://www.linkedin.com/pulse/role-ai-enhancing-project-management-efficiency-3ucme>. – Date of access: 12.04.2024.
8. What is artificial intelligence (AI) [Electronic resource]. – Mode of access: <https://www.ibm.com/topics/artificial-intelligence>. – Date of access: 14.04.2024.