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STRATEGIC PROJECT MANAGEMENT DEVELOPMENT UNDER INFLUENCE OF ARTIFICIAL INTELLIGENCE

This paper explores the dynamic intersection of artificial intelligence (AI) and strategic project management (SPM), investigating the transformative effects of AI technologies on traditional project management practices. As organizations navigate an increasingly complex and fast-paced business environment, the integration of AI in SPM emerges as a catalyst for efficiency, adaptability, and informed decision-making. The study delves into key facets of SPM influenced by AI, including data-driven decision-making, predictive analytics, automation of routine tasks, and resource optimization. The role of AI in risk management, particularly in identifying, assessing, and mitigating project risks, is examined in detail. Furthermore, the paper explores how natural language processing (NLP) fosters enhanced communication within project teams, contributing to a more collaborative and connected working environment. Adaptive project planning, facilitated by AI, is investigated as a mechanism for responding to evolving project dynamics in real-time. The paper underscores the importance of continuous monitoring and reporting enabled by AI, providing project managers with timely insights for strategic adjustments. The concept of continuous improvement, driven by AI-driven analytics, is explored as organizations seek to refine and optimize their project management approaches based on past experiences. Ethical considerations and responsible AI practices are emphasized as integral components of AI integration in SPM. The paper concludes by highlighting the synergistic potential of human expertise and AI capabilities, envisioning a future where organizations can leverage AI to achieve more adaptive, efficient, and successful project outcomes. This comprehensive review aims to contribute to the understanding of AI's transformative influence on strategic project management, providing insights for practitioners, researchers, and organizations seeking to navigate the evolving landscape of project management in the era of artificial intelligence.

Keywords: strategic project management, development, artificial intelligence.

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РОЗРОБКА СТРАТЕГІЧНОГО УПРАВЛІННЯ ПРОЄКТАМИ ПІД ВПЛИВОМ ШТУЧНОГО ІНТЕЛЕКТУ

У цій статті досліджується динамічний перетин штучного інтелекту (ШІ) і стратегічного управління проєктами (SPM), та трансформаційний вплив технологій ШІ на традиційні практики управління проєктами. Оскільки організації орієнтуються в дедалі складнішому та стрімкому бізнес-середовищі, інтеграція ШІ в SPM стає каталізатором ефективності, адаптивності та прийняття обґрунтованих рішень. У дослідженні розглядаються ключові аспекти SPM, на які впливає ШІ, включаючи прийняття рішень на основі даних, прогнозу аналітики, автоматизацію рутинних завдань і оптимізацію ресурсів. Детально розглядається роль штучного інтелекту в управлінні ризиками, зокрема у виявленні, оцінці та зменшенні ризиків проєкту. Крім того, у статті досліджується, як обробка природної мови (NLP) сприяє покращенню комунікації в проєктних групах, сприяючи більшій співпраці та зв'язаному робочому середовищу. Адаптивне планування проєкту, що підтримується ШІ, досліджується як механізм реагування на зміну динаміки проєкту в режимі реального часу. У статті підкреслюється важливість безперервного моніторингу та звітності за допомогою ШІ, надаючи керівникам проєктів своєчасну інформацію для стратегічних коригувань. Концепція безперервного вдосконалення, керована аналітикою на основі штучного інтелекту, досліджується, оскільки організації прагнуть удосконалити й оптимізувати свої підходи до управління проєктами на основі минулого досвіду. Етичні міркування та відповідальна практика ШІ підкреслюються як невід'ємні компоненти інтеграції ШІ в SPM. Дослідження завершується підкресленням синергічного потенціалу людського досвіду та можливостей штучного інтелекту, передбачаючи майбутнє, де організації зможуть використовувати ШІ для досягнення більш адаптивних, ефективних і успішних результатів проєктів. Цей огляд має на меті сприяти розумінню трансформаційного впливу штучного інтелекту на стратегічне управління проєктами, надаючи інформацію для практиків, дослідників та організацій, які прагнуть орієнтуватися в мінливому ландшафті управління проєктами в епоху штучного інтелекту.

Ключові слова: стратегічне управління проєктами, розробка, штучний інтелект.

Introductio. In the contemporary landscape of project management, the integration of artificial intelligence (AI) represents a transformative paradigm shift that promises to revolutionize strategic project management (SPM) practices. As organizations navigate complex and dynamic environments, the need for efficient, data-driven decision-making and adaptive project execution has become paramount. This paper explores the multifaceted impact of AI on SPM, examining how AI technologies enhance key facets such as risk management, resource allocation, communication, and overall project optimization.

The acceleration of AI technologies has enabled project managers to move beyond traditional methodologies, embracing a more proactive and predictive approach to project management. By harnessing the power of AI-driven analytics, organizations can leverage historical project data to anticipate challenges, identify

patterns, and make informed decisions that contribute to project success. The ability of AI to process vast amounts of data in real-time introduces a new era of project intelligence, offering insights that were previously challenging to attain.

Automation, another core element of AI integration, plays a pivotal role in liberating project managers from routine and time-consuming tasks. This allows project leaders to redirect their focus towards strategic planning, innovation, and addressing critical project milestones. The efficiency gains from automating administrative functions contribute to streamlined project workflows and improved overall project performance.

Natural Language Processing (NLP) emerges as a key enabler of enhanced communication and collaboration within project teams. AI-driven tools employing NLP facilitate efficient information exchange, sentiment analysis, and improved understanding of team

dynamics. The resulting connectivity fosters a collaborative environment that is essential for navigating the complexities of modern project landscapes.

Furthermore, the concept of adaptive project planning takes center stage, highlighting how AI enables real-time adjustments to project parameters in response to changing requirements and unforeseen challenges. This adaptability ensures that projects remain on course despite the uncertainties inherent in today's business environments.

While the benefits of AI in SPM are evident, ethical considerations and challenges related to data security and algorithmic biases cannot be overlooked. Responsible AI integration practices are crucial to mitigating potential risks and ensuring that AI technologies align with organizational values and goals.

This paper aims to provide a comprehensive exploration of the integration of AI in SPM, offering insights into the way's organizations can harness AI's potential to achieve more efficient, adaptive, and successful project outcomes. By understanding the transformative power of AI in project management, organizations can position themselves at the forefront of innovation, driving project success in an era defined by technological advancements and dynamic business landscapes.

1. Literature review. AI can enhance marketing research, strategy, and actions by automating repetitive functions, processing data, and analyzing interactions and emotions [1].

This article explores alternative changes that could take place in the technology, methodology, and most importantly, the practice of locational decision-making, and is part of a larger scale project aimed at investigating the practical value of artificial intelligence (AI) techniques for strategic decision-making [2].

This paper introduces a comprehensive framework for understanding the interplay of AI and strategic management, guiding future research on quantifiable effects of AI in management [3].

Project managers expect AI to improve project management practices in the near and far future, but its impact remains uncertain due to a lack of clear evidence on its potential impact [4].

Artificial intelligence techniques are having a significant impact on risk management, costs, and deadlines in technological innovation project management [5].

Artificial intelligence techniques can enhance software project management tools for distributed multi-platform projects, with a prototype system showing promising results in user trials [6].

This research aims to determine which project management methodology is best for AI-transformation projects, aligning with strategic business goals and ensuring smooth project flow [7].

An integrated intelligent control model for managing innovative projects and programs significantly increases the value of the products by integrating business, social, emotional, technical, and cognitive competencies [8].

2. Functional areas development of strategic project management. Strategic project management (SPM) involves planning, executing, and overseeing key projects that align with an organization's long-term goals. The integration of artificial intelligence (AI) into strategic project management has the potential to revolutionize the way projects are planned, executed, and monitored. On the fig. 1 presented functional areas of AI which can driving development of strategic project management.

While AI brings numerous benefits to strategic project management, it's essential to consider ethical considerations, data security, and potential biases in AI algorithms. A thoughtful integration of AI into project management processes can lead to more efficient, adaptive, and successful project outcomes.

3. Strategic approach under influence of artificial intelligence. Data-driven decision-making is a strategic approach that involves making choices based on the analysis and interpretation of relevant data. In the context of project management, data-driven decision-making leverages information and insights obtained from various sources to guide and optimize the decision-making process. This approach has become increasingly essential as organizations seek to enhance the efficiency and effectiveness of their projects.

Key Components of Data-Driven Decision Making in Project Management presented on fig. 2.

Data-driven decision-making in project management is a proactive and strategic approach that empowers organizations to harness the power of data for more effective and successful project outcomes. As technology and analytics capabilities continue to advance, the role of data in decision-making will become increasingly integral to project management practices.

4. Risk management of strategic project under influence of artificial intelligence. Risk management is a critical aspect of strategic project management, aiming to identify, assess, mitigate, and monitor potential risks that could impact a project's success. Effectively managing risks ensures that a project can navigate uncertainties and challenges, enhancing the likelihood of achieving its objectives. Let's look on the key components and best practices associated with risk management in the context of AI project management (fig. 3).

Effective risk management is an integral part of project success, providing organizations with the tools and insights needed to navigate uncertainties and deliver projects on time and within budget. By integrating risk management into the fabric of project management processes, organizations can enhance their resilience and adaptability in the face of an ever-evolving business landscape.



Fig.1. Functional areas of AI which can driving development of strategic project management

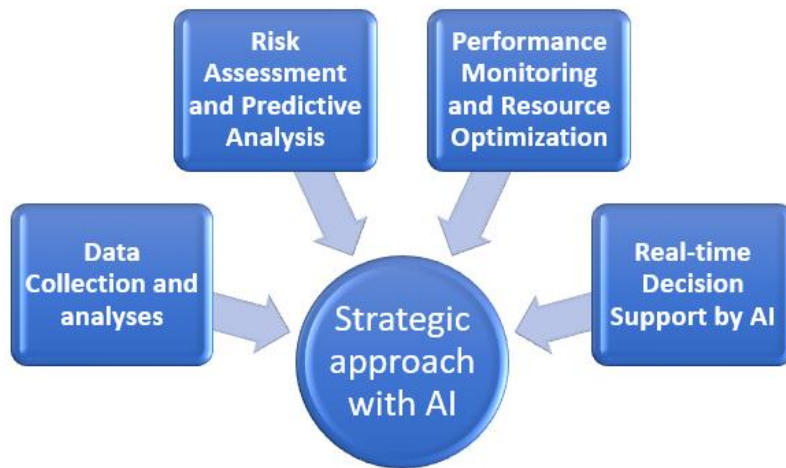


Fig. 2. Key Components of Data-Driven Decision Making in Project Management



Fig. 3. Key components and best practices associated with risk management

4. Best Practices in Strategic Management under influence of artificial intelligence

The rise of AI is fundamentally transforming every aspect of business, including strategic management. Let's

look on some best practices for incorporating AI into your strategic decision-making processes (fig.4).

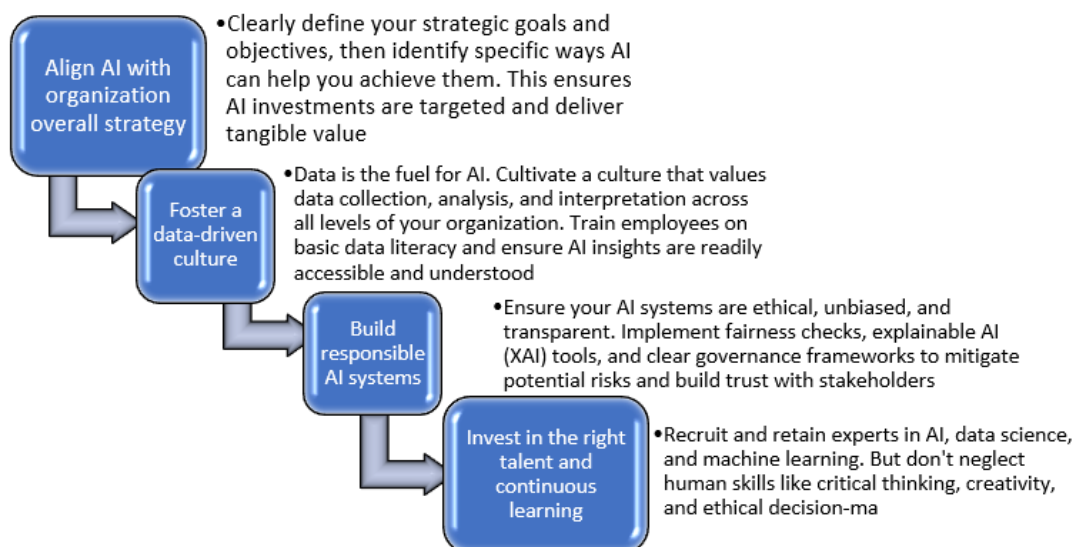


Fig. 4. Best practices for incorporating AI into your strategic decision-making processes

By embracing these best practices and tailoring them to your specific context in Kyiv, Ukraine, you can

leverage AI to gain a strategic advantage and drive sustainable growth for your organization.

AI is a powerful tool, but it's not a magic solution. Its success depends on clear strategic intent, responsible implementation, and a commitment to continuous learning and adaptation.

Conclusion. The integration of artificial intelligence (AI) into strategic project management (SPM) marks a significant evolution in the way organizations plan, execute, and optimize their projects. As we have explored throughout this paper, AI brings unprecedented opportunities for data-driven decision-making, risk management, resource allocation, communication enhancement, and adaptive project planning. The transformative impact of AI in SPM is evident in its ability to propel projects toward success in a rapidly changing business landscape.

AI-driven analytics, fueled by historical project data, enable project managers to predict outcomes, identify risks, and make informed decisions with a level of precision and foresight that was previously unattainable. The automation of routine tasks liberates project managers to focus on strategic aspects, fostering innovation and creativity within project teams. Natural Language Processing (NLP) contributes to improved communication and collaboration, enhancing the overall effectiveness of project teams.

The concept of adaptive project planning, empowered by AI, allows organizations to navigate uncertainties and dynamically adjust project parameters in response to changing conditions. This adaptability is a crucial asset in an environment where flexibility and responsiveness are essential for project success.

However, as organizations embrace the benefits of AI in SPM, it is imperative to address ethical considerations, data security, and potential biases embedded in AI algorithms. Responsible AI integration practices ensure that the advantages of AI are harnessed without compromising organizational values or exposing projects to unforeseen risks.

In conclusion, the integration of AI in SPM represents a forward-thinking approach for organizations

aspiring to excel in project management. By adopting AI technologies responsibly and leveraging their capabilities strategically, organizations can position themselves to achieve greater efficiency, innovation, and success in their project endeavors. As the symbiotic relationship between AI and project management continues to evolve, those who embrace this transformative journey are likely to lead the way in shaping the future of project management practices.

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