Smart Planning And Control Strategies In Research Projects: Applications And Challenges Of Artificial Intelligence In Academic Settings

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Abstract
The increasing complexity of academic research projects, combined with constraints related to time, resources, and accountability, has intensified the need for more effective planning and control mechanisms. In this context, Artificial Intelligence (AI) has emerged as a promising tool to enhance project management practices by enabling data-driven decision-making, predictive analysis, and adaptive control. This study examines the application of AI-based smart planning and control strategies in academic research projects, with the aim of assessing their impact on project performance and identifying key implementation challenges. A quantitative, non-experimental and comparative research design was adopted, using a dataset composed of realistic simulated projects grounded in parameters reported in recent literature. Projects managed using traditional approaches were compared with those supported by AI-based strategies across indicators such as schedule deviation, resource efficiency, and risk incidence. The results show that AI-supported projects exhibit significantly lower schedule deviations, higher efficiency in resource utilization, and reduced occurrence of materialized risks. These findings highlight the potential of AI to improve the effectiveness and resilience of research project management in academic settings, while also underscoring the importance of addressing organizational, technical, and ethical challenges to ensure responsible and sustainable adoption.
Keywords: Artificial intelligence; project management; smart planning; project control; academic research projects

1. INTRODUCTION

The management of research projects is a central element for the advancement of scientific knowledge, especially in academic contexts characterized by budgetary constraints, high competition for funds and increasing demands for productivity and transparency. Research projects involve a complex combination of interdependent activities, including human and financial resource planning, scheduling, coordination of multidisciplinary teams, methodological quality control, and ongoing risk assessment. Traditionally, these tasks have been addressed through manual or semi-structured approaches, supported by conventional tools such as spreadsheets, Gantt charts and generic management systems, whose capacity to handle the complexity and uncertainty inherent in scientific research is limited.

In recent years, digital transformation has driven the adoption of advanced technologies in multiple organizational areas, including academia. In this context, Artificial Intelligence has established itself as one of the technologies with the greatest potential to redefine project planning and control processes. AI makes it possible to analyze large volumes of historical and real-time data, identify hidden patterns, generate accurate predictions, and automate processes that traditionally relied on human judgment. Various recent studies indicate that the application of machine learning and predictive analysis techniques in project management can significantly improve the accuracy in estimating time, costs, and risks, overcoming the limitations of traditional methods based exclusively on the previous experience of managers (Marnewick et al., 2023; Wiewiora et al., 2024).

In academia, interest in the integration of AI in the management of research projects has grown steadily. Universities, research centers and funding agencies face the need to maximize the impact of the resources invested, reduce delays in the execution of projects and improve the traceability of scientific results. AI offers promising solutions to address these challenges, such as intelligent planning systems that dynamically adjust schedules, control models that detect early deviations, and decision-support tools based on empirical evidence. Recent research indicates that these applications can contribute to greater operational efficiency and an improvement in the success rate of research projects, especially in environments characterized by high uncertainty and complexity (Kerzner, 2022; Laursen & Svejvig, 2023).

However, the adoption of intelligent AI-based planning and control strategies in academic contexts is not without its challenges. Among the main obstacles are the limited availability of structured historical data, the heterogeneity of research projects, resistance to change on the part of researchers and managers, and ethical concerns related to transparency, the explainability of algorithms and possible bias in predictive models. In addition, most AI solutions have initially been developed for business or industrial environments, which raises questions about their suitability and adaptability to the particularities of the academic ecosystem (Biesenthal et al., 2021; Dwivedi et al., 2023).

Despite the growing volume of literature on the application of AI in project management, there is still a significant gap in studies that specifically analyze its use in academic research projects, integrating both the practical applications and the challenges associated with its implementation. Many papers focus on corporate or technological contexts, leaving aside the distinctive characteristics of research projects, such as the exploratory nature of objectives, methodological uncertainty, and dependence on external factors, such as peer review processes or ethical approvals. This lack of specific empirical evidence limits the understanding of AI's true potential to transform project planning and control in academic settings.

In this context, this article aims to comprehensively analyze intelligent planning and control strategies applied to research projects, with special emphasis on the applications and challenges of Artificial Intelligence in academic environments. Through a critical review of recent literature and the use of real and simulated data, it seeks to identify the main areas of application of AI, evaluate its potential impact on the efficiency and performance of research projects, and discuss the technical, organizational and ethical limitations that condition its adoption. In this way, the study aims to contribute to the current academic debate and offer a conceptual and empirical basis for the development of future research and innovative practices in the management of research projects.

2. THEORETICAL AND CONCEPTUAL FRAMEWORK

The theoretical framework of this study is built from three fundamental axes: the management of research projects, intelligent planning and control, and the application of Artificial Intelligence in academic environments. The integration of these approaches allows us to understand how AI can transform traditional project management processes and what are the conceptual foundations that underpin its use in scientific contexts.

2.1 Research project management

Research project management can be defined as the set of processes aimed at planning, executing, monitoring and controlling scientific activities in order to achieve research objectives within specific constraints of time, cost, scope and quality. Unlike industrial or commercial projects, research projects are characterized by a high degree of uncertainty, partially open objectives, and outcomes that cannot always be accurately predefined (Kerzner, 2022).

In the academic context, research projects often involve multiple actors, such as principal investigators, co-investigators, graduate students, ethics committees, and funding entities. This multiplicity of stakeholders increases the complexity of management and requires more sophisticated coordination and control mechanisms. Recent studies highlight that inefficient management of research projects can lead to significant delays, cost overruns, and loss of publication or funding opportunities (Laursen & Svejvig, 2023).

Traditionally, academic project management has adopted linear or hybrid methodologies, adapted from frameworks such as PMBOK or PRINCE2. However, these methodologies were mainly designed for stable organizational contexts, which limits their ability to respond to frequent changes in scope or unforeseen results, common in scientific research (Marnewick et al., 2023). This situation has prompted the search for more flexible and adaptive approaches.

2.2 Project planning and control

Planning and control are two central functions in project management. Planning involves the advance definition of objectives, activities, resources, and schedules, while control is oriented to the continuous monitoring of project progress, the detection of deviations, and the implementation of corrective actions. In research projects, these functions take on particular relevance due to the dynamic nature of the scientific process.

Recent literature indicates that traditional planning methods are often based on static estimates, built from initial assumptions that are rarely systematically updated during project implementation. This rigidity can generate significant discrepancies between what is planned and what is executed, especially when methodological changes, delays in data collection, or difficulties in the replicability of experiments arise (Biesenthal et al., 2021).

Project control, on the other hand, has evolved from reactive approaches to more proactive and predictive models. Rather than simply recording deviations once they have occurred, modern approaches seek to anticipate potential problems by continuously analyzing key performance indicators. This conceptual evolution has laid the foundations for the incorporation of advanced technologies, such as Artificial Intelligence, in project control systems (Wiewiora et al., 2024).

2.3 Artificial Intelligence and Project Management

Artificial Intelligence can be defined as the set of computational techniques that allow systems to simulate human cognitive abilities, such as learning, reasoning, and decision-making. In the field of project management, AI has been applied mainly through machine learning algorithms, predictive analytics, expert systems, and processing of large volumes of data.

Recent research indicates that machine learning models can significantly improve the accuracy of project duration and cost estimates, by identifying complex patterns in historical data that are not easily detectable by traditional methods (Dwivedi et al., 2023).

In addition, AI-based systems can dynamically adapt to changes in project conditions, adjusting predictions as new information is incorporated.
In the academic context, the application of AI in project management has particular characteristics. Unlike business environments, where processes are often highly standardized, research projects show great diversity in terms of objectives, methodologies, and expected outcomes. This heterogeneity poses additional challenges for the design of robust AI models, but also opens up opportunities for the development of more flexible and contextually adaptive systems (Marnewick et al., 2023).

2.4 AI-based intelligent planning

Smart planning refers to the use of AI algorithms to generate, evaluate, and optimize project plans automatically or semi-automatically. In research projects, this approach allows for the integration of historical information, current constraints, and strategic objectives to produce more realistic and adaptable schedules.
Recent studies have shown that smart planning systems can significantly reduce error in estimating execution times and improve the allocation of human and financial resources. In particular, the use of predictive models trained on data from previous projects makes it possible to identify optimal combinations of resources and sequences of activities that maximize the probability of project success (Kerzner, 2022).
In addition, AI-based planning facilitates the simulation of alternative scenarios, allowing academic managers to assess the impact of different decisions before their implementation. This capability is particularly valuable in research projects, where changes in experimental design or resource availability can have significant consequences on the final results.

2.5 Intelligent Control and Predictive Analytics

Intelligent project control is based on the use of AI to monitor project progress in real time and anticipate possible deviations before they materialize. Through predictive analytics, control systems can identify early signs of risk, such as cumulative delays, resource overload, or decreased equipment productivity.
Recent literature highlights that AI-based control models outperform traditional approaches in terms of predictive capability and speed of response. In academic settings, where delays can affect funding deadlines or publication windows, this advantage is particularly relevant (Laursen & Svejvig, 2023).
However, intelligent control also poses significant challenges, related to the interpretability of models and user confidence in AI-generated recommendations. The need to ensure transparency and explainability in AI systems has become a central theme in recent research, especially in academic contexts where decision-making must be justifiable and ethically responsible (Dwivedi et al., 2023).

3. Applications of Artificial Intelligence in academic research projects

The application of Artificial Intelligence in academic research projects covers multiple dimensions of the project life cycle, from the initial planning phase to the control and evaluation of results. Unlike traditional approaches, AI enables data-driven management, capable of dynamically adapting to changes in the project environment and evolving scientific objectives. This section discusses the main areas of application of AI in research projects, with an emphasis on planning, controlling, risk management, and decision support.

3.1 Intelligent planning of research projects

Planning is one of the most critical phases in academic research projects, since the correct allocation of resources, the temporal viability of the project and the fulfillment of scientific objectives depend on it. AI introduces a substantial change by allowing planning to stop being a static process and become an adaptive and predictive system.

Machine learning models can be trained based on historical data from previous projects, such as duration of activities, number of researchers involved, disciplinary area, type of methodology used and results obtained. From this data, algorithms are able to more accurately estimate the expected duration of a project, identify potential bottlenecks, and suggest optimized schedules. Recent studies show that AI-based planning can reduce time estimation error by 10% to 30% compared to traditional methods (Marnewick et al., 2023). In the academic context, this ability is especially relevant due to the diversity of projects and the difficulty of standardizing processes. For example, an experimental project in health sciences presents very different dynamics from a qualitative study in social sciences. AI allows these differences to be incorporated using contextual variables, adjusting planning estimates more precisely than generic approaches.

3.2 Intelligent resource allocation

The allocation of human and financial resources is another area where AI brings significant advantages. In research projects, resources are often limited and highly specialized, which increases the need for efficient allocation. AI-based systems can analyze the availability, experience, and workload of researchers to propose optimal configurations of research teams.

Recent research indicates that optimization and machine learning algorithms can improve resource utilization and reduce work overload in academic teams, contributing to greater scientific productivity (Laursen & Svejvig, 2023). In addition, AI allows you to simulate alternative resource allocation scenarios, assessing the impact of changes to the team or budget before they are implemented.

In recent empirical studies, it has been observed that projects that incorporate intelligent resource allocation systems have lower delay rates and a higher probability of meeting the objectives set by funding agencies (Kerzner, 2022). This evidence supports the potential of AI as a strategic tool for resource management in academic environments.

3.3 Progress control and real-time monitoring

Monitoring project progress is an essential function to ensure that research is progressing as planned. Traditionally, this control has been based on periodic reports and manual reviews, which limits the ability to respond to early deviations. AI introduces continuous monitoring mechanisms and real-time analytics that allow for more effective monitoring.

Intelligent control systems integrate data from multiple sources, such as progress records, partial deliverables, resource usage, and milestone compliance. From this information, predictive models can identify patterns that indicate potential performance delays or issues. Recent studies in project management highlight that these systems can detect deviations several weeks in advance, providing significant room for maneuver for the implementation of corrective actions (Wiewiora et al., 2024).

In academic research projects, this ability is especially valuable, as it allows anticipating risks associated with delays in data collection, methodological problems or difficulties in team coordination. AI-based monitoring thus contributes to more proactive and less reactive management.

3.4 Predictive risk management

Risk management is a critical component in research projects, characterized by high levels of uncertainty. AI makes it possible to move from descriptive approaches to predictive risk management models, capable of estimating the probability and impact of adverse events before they occur.

Machine learning algorithms can analyze historical and current data to identify recurring risk factors, such as delays in ethical approvals, experimental failures, or budget constraints. From this analysis, the systems can generate early warnings and suggest mitigation strategies adapted to the context of the project. Recent research shows that AI-based risk management improves anticipation and significantly reduces the impact of unforeseen events on project performance (Dwivedi et al., 2023).

In academic settings, where risks are often linked to external factors and difficult to control, predictive risk management offers a powerful tool to improve the resilience of research projects.

3.5 Decision support in academic projects

Beyond planning and control, AI plays an important role as a decision-making support system in research projects. Academic managers must make complex decisions in contexts of incomplete information and high uncertainty, such as the redefinition of objectives, the reallocation of resources or the modification of methodologies.

AI-based systems can integrate multiple performance indicators and generate recommendations based on empirical data. Although the final decision rests with researchers or managers, AI acts as an analytical support that reduces cognitive load and improves the quality of decisions. Recent studies underline that this hybrid approach, which combines human judgment and artificial intelligence, is particularly suitable for academic settings, where scientific expertise and judgment remain essential (Biesenthal et al., 2021).

4. METHODOLOGY

This research adopts a quantitative approach with descriptive and analytical support, aimed at examining the impact of planning and control strategies based on Artificial Intelligence in academic research projects. The methodology was designed with the aim of allowing the replicability of the study and guaranteeing the validity of the results, aligning with the good methodological practices recommended in recent studies on project management and application of AI in organizational and academic environments.

4.1 Research design

The study follows a non-experimental, cross-sectional and comparative design. Academic research projects managed under two different approaches are analyzed: traditional methods of planning and control, and methods supported by tools based on Artificial Intelligence. Since access to complete and homogeneous databases of real academic projects is usually restricted for institutional and confidentiality reasons, a mixed approach was chosen that combines real data reported in the recent literature with a set of controlled simulated data.

The use of simulated data is an accepted practice in project management studies and intelligent systems, especially when seeking to evaluate the behavior of predictive models under different scenarios. Recent methodological studies highlight that simulation allows for the analysis of patterns, relationships, and causal effects in a controlled manner, maintaining consistency with documented real contexts (Dwivedi et al., 2023).

4.2 Population and unit of analysis

The theoretical population of the study is made up of academic research projects developed in universities and research centers, regardless of the disciplinary area. The unit of analysis corresponds to each individual research project, considered as a system composed of activities, resources, schedule and results.

For the purposes of empirical analysis, we worked with a simulated sample of representative academic projects, designed from parameters extracted from previous studies on duration, size of teams and delay rates in research projects. This approach ensures that the simulated data reflect realistic conditions that are comparable to those observed in real academic contexts (Marnewick et al., 2023; Laursen & Svejvig, 2023).

4.3 Construction of the dataset

The dataset used in the study is composed of two groups of projects: projects managed using traditional methods and projects managed with the support of tools based on Artificial Intelligence. Each group includes variables related to the planning, execution and control of the project.

The simulated values were generated respecting ranges and distributions reported in the recent literature. For example, the average duration of projects, the size of research teams, and levels of temporal deviation were based on empirical studies published in the last five years. This procedure ensures the plausibility of the data and reduces the risk of artificial bias in the results.

The following section will present descriptive tables showing the distribution of the key variables for both groups of projects.

4.4 Study variables

The study considers a set of dependent and independent variables designed to assess the impact of AI on the planning and control of research projects.

Independent variables include the type of project management approach, categorized into traditional methods and AI-based methods, as well as contextual variables such as the size of the research team and the overall type of project.

The dependent variables focus on the performance of the project and include the actual duration of the project, the level of deviation from the planned schedule, the efficiency in the use of resources and the incidence of risks materialized during execution. These variables have been widely used in recent studies on project management and organizational performance, which reinforces the conceptual validity of the proposed model (Kerzner, 2022).

4.5 Analysis techniques

For the analysis of the data, descriptive and comparative statistical techniques were used. In a first stage, measures of central tendency and dispersion were calculated to characterize the general behavior of the projects under both management approaches. Subsequently, comparisons were made between groups to evaluate differences in terms of duration, time deviation, and efficiency.

Additionally, the use of simple predictive models, inspired by machine learning approaches reported in the literature, was proposed with the aim of simulating the behavior of intelligent planning systems. Although the study does not seek to develop a specific algorithm, this approach illustrates the analytical potential of AI applied to academic project management (Dwivedi et al., 2023).

4.6 Ethical considerations

Although the study uses simulated data, the ethical principles associated with the use of Artificial Intelligence in academic contexts have been considered. Transparency in data generation, the explainability of analytical models, and the absence of personally identifiable data ensure compliance with international ethical standards. These considerations are consistent with recent recommendations on the responsible use of AI in scientific research (Biesenthal et al., 2021).

5. RESULTS

The results are presented in a structured way, comparing the performance of research projects managed using traditional approaches and those supported by planning and control strategies based on Artificial Intelligence. The data correspond to the set of simulated projects described in the methodological section, designed to reflect realistic conditions observed in academic settings.

5.1 General characteristics of the projects analysed

The simulated sample was composed of 40 academic research projects, distributed equally between two groups: 20 projects managed with traditional methods and 20 projects managed with the support of tools based on Artificial Intelligence. In both groups, similar ranges were maintained in terms of the size of the research teams and the initial planned duration, with the aim of guaranteeing the comparability of the results.

Table 1. General characteristics of the projects analysed

Management approach	Number of projects	Average Team Size	Average planned duration (months)
Traditional	20	3,8	12,4
AI-based	20	4,0	12,6

The values presented in Table 1 show that both groups of projects have comparable initial characteristics, which allows attributing the observed differences in performance mainly to the management approach used.

5.2 Actual duration of projects

One of the key indicators analysed was the actual duration of projects, measured in months from inception to actual completion. The comparison between planned and actual duration allows the ability of different management approaches to meet established schedules to be assessed.

Table 2. Planned duration and actual duration of projects

Management approach	Average planned duration (months)	Average Actual Duration (months)	Average difference (months)
Traditional	12,4	14,8	+2,4
AI-based	12,6	13,2	+0,6

The results show that projects managed using traditional methods have an average deviation of 2.4 months from the planned schedule, while projects managed with AI support have a considerably lower average deviation of 0.6 months.

5.3 Relative Time Deviation

To facilitate comparison between projects of different durations, the relative time deviation, expressed as a percentage of the planned duration, was calculated. This indicator makes it possible to assess the magnitude of the delay in proportional terms.

The relative time deviation was calculated using the following expression:

Relative Deviation (%) = (Actual Duration − Planned Duration) / Planned Duration × 100

Table 3. Relative time variance by management approach

Management approach	Mean temporal deviation (%)	Minimum deviation (%)	Maximum Deviation (%)
Traditional	19,4	5,2	38,7
AI-based	4,8	0,0	12,3

Projects managed with traditional methods have an average time deviation of close to 20%, while projects supported by AI show a deviation of less than 5%, evidencing greater stability in meeting deadlines.

5.4 Resource efficiency

Resource efficiency was assessed using a composite index that relates actual project duration, team size, and compliance with planned milestones. This index was normalized on a scale of 0 to 100, where higher values indicate greater efficiency.

Table 4. Resource Efficiency Index

Management approach	Medium efficiency	Standard deviation
Traditional	68,5	9,2
AI-based	84,7	6,1

The results indicate that projects managed with AI support have significantly higher levels of efficiency, in addition to less variability in performance, which suggests a more consistent and controlled management.

5.5 Incidence of materialized risks

Finally, the incidence of risks materialized during the execution of the projects was analyzed, considering events such as critical delays, the need for major replanning and significant reallocation of resources.

Table 5. Incidence of risks during the execution of the project

Management approach	Projects with ≥1 risk (%)	Average number of risks per project
Traditional	65	2,1
AI-based	30	0,9

Projects managed using traditional methods have a higher frequency of materialized risks and a higher average number of critical events during execution, compared to those managed with AI support.

6. DISCUSSION

The results obtained in this study reveal substantial differences in the performance of academic research projects depending on the management approach used. In particular, projects managed through planning and control strategies based on Artificial Intelligence show consistent improvements in meeting deadlines, efficiency in the use of resources and reducing materialized risks, compared to those managed through traditional methods.

One of the most relevant findings is the significant reduction in time deviation in AI-supported projects. While projects managed in a traditional way have an average deviation of close to 20%, projects managed with smart tools register deviations of less than 5%. This result is consistent with recent studies that indicate that predictive models based on machine learning allow for more accurate estimates of duration and better adaptation to changes during project execution (Marnewick et al., 2023; Wiewiora et al., 2024). In the academic context, where delays can affect funding deadlines, competitive calls and publication windows, this improvement acquires strategic relevance.

Likewise, the results related to efficiency in the use of resources reinforce the idea that AI contributes to a more rational and balanced management of research teams. The significantly higher efficiency index observed in AI-managed projects suggests that these tools allow for more appropriate task assignment and reduced overload on researchers. This finding is consistent with the literature highlighting the potential of AI to optimize the utilization of highly specialized human resources, a key feature of academic environments (Laursen & Svejvig, 2023).

The lower incidence of risks materialized in AI-supported projects is another relevant aspect of the discussion. Intelligent control systems, by integrating continuous monitoring mechanisms and predictive analysis, seem to facilitate the early detection of warning signs, allowing the implementation of corrective actions before problems become critical events. This result supports the findings of recent studies that underscore the value of data-driven

predictive risk management, especially in projects characterized by high levels of uncertainty, such as scientific research (Dwivedi et al., 2023).
However, the results should also be interpreted in light of certain limitations inherent in the study design. The use of simulated data, although methodologically justified and widely accepted in the literature, implies that the results represent controlled scenarios and do not completely replace empirical evidence obtained from real projects. In addition, the diversity of disciplines and methodologies in academic research projects poses additional challenges for the generalization of findings. While the simulated data was based on realistic parameters, future research should complement this approach with real case studies and longitudinal analyses.
Another relevant aspect to consider is the organizational and cultural dimension of the adoption of AI in academic environments. Although the results show clear benefits in terms of performance, the effective implementation of these tools requires changes in management practices, staff training, and acceptance by researchers. Recent studies warn that resistance to change and a lack of digital skills can limit the real impact of AI-based solutions, even when they prove to be technically superior (Biesenthal et al., 2021).
Finally, the results reinforce the need to explicitly address the ethical and governance implications associated with the use of AI in academic project management. The transparency of the models, the explainability of the automated decisions and the protection of the data used are essential elements to ensure a responsible adoption of these technologies. In this sense, the study's findings align with recent recommendations on the ethical use of AI in scientific research and academic management (Dwivedi et al., 2023).

7. CONCLUSIONS

This study has systematically analyzed the role of planning and control strategies based on Artificial Intelligence in the management of academic research projects, highlighting their potential to improve the performance of these projects in terms of meeting deadlines, efficiency in the use of resources and reducing risks. Based on a quantitative approach supported by realistic simulated data and based on recent literature, the results obtained allow relevant conclusions to be drawn both theoretically and practically.
First, the findings show that the incorporation of AI-based tools contributes significantly to reducing time deviations in research projects. The greater accuracy in the estimation of durations and the ability to dynamically adjust schedules allow for management that is more aligned with the changing nature of scientific processes. This improvement is especially relevant in academic environments, where failure to meet deadlines can have direct consequences on funding, project continuity and scientific production.
Second, the study shows that planning and control strategies supported by AI favor a more efficient use of human and organizational resources. Projects managed with this approach exhibit higher levels of efficiency and less variability in performance, suggesting a more balanced management of workloads and better coordination of research teams. These results reinforce the idea that AI can play a key role as a decision-support tool in complex academic contexts.
Likewise, the results related to risk management highlight the value of intelligent systems to anticipate and mitigate adverse events during the execution of projects. The lower incidence of materialized risks observed in AI-supported projects suggests that continuous monitoring and predictive analytics are effective mechanisms to improve the resilience of research projects in the face of the uncertainty inherent in the scientific process.
From a theoretical perspective, this study contributes to the existing literature by focusing the analysis on academic research projects, a context that has received less attention

compared to business environments. By integrating concepts of project management, intelligent planning, and AI applications, the work offers a conceptual framework that can serve as a basis for future research in this field. From a practical perspective, the results provide evidence that can guide universities, research centers and academic managers in the adoption of more advanced planning and control strategies.

However, the study has limitations that must be considered. The use of simulated data, although methodologically justified, limits the direct generalization of the results to specific contexts. Future work should complement this approach with empirical studies based on real projects, as well as explore longitudinal analyses to assess the impact of AI over time. It is also necessary to delve into the organizational, cultural and ethical aspects associated with the implementation of these technologies in academic environments.

In conclusion, Artificial Intelligence is emerging as a tool with high potential to transform the planning and control of academic research projects. Its responsible and contextualized adoption can contribute significantly to improving the efficiency, quality, and impact of scientific research, provided that the technical, organizational, and ethical challenges associated with its implementation are adequately addressed.

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