DIGITAL TRANSFORMATION IN EDUCATIONAL MANAGEMENT: TECHNOLOGICAL TOOLS, INNOVATIVE PRACTICES AND CHALLENGES

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ABSTRACT

Digital transformation has redefined educational management, driving significant changes in the administrative, pedagogical and strategic processes of educational institutions. This study, through a literature review, analyzes the main technological tools and innovative practices applied to educational management, highlighting Academic Management Systems (EMS), Distance Learning (EAD) platforms, Artificial Intelligence (AI) and practices such as

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gamification and data-driven decision making. Digital tools not only automate processes, but also offer analytical support for more informed and strategic decisions, promoting greater efficiency, transparency, and personalization. However, the study highlights significant challenges in the implementation of these technologies, including cultural resistance to change, lack of adequate technological infrastructure, insufficient training of the professionals involved, and concerns about data privacy and security. The survey highlights the need for robust investments in technological infrastructure, inclusive public policies, and continuous training programs for managers and teachers. In addition, the importance of effective educational leadership capable of promoting an organizational culture open to innovation is emphasized. In the end, it is concluded that, despite the challenges, digital technologies offer a transformative potential for educational management, enabling more efficient, inclusive and student-centered environments. The study also suggests that future research deepen the analysis of the impact of emerging technologies, such as Artificial Intelligence, on the continuous improvement of management processes and institutional performance.

Keywords: Digital Transformation. Educational Management. Technological Tools. Educational Innovations. Artificial intelligence.

INTRODUCTION

The digital age has caused significant structural transformations in the management of educational institutions, directly impacting administrative, pedagogical and strategic processes. Traditionally, school administration was characterized by bureaucratic, centralized practices that were highly dependent on manual records, which, in addition to being costly, often had failures in the monitoring of critical data (Lévy, 1999). However, with the advancement of digital technologies, a new paradigm emerges, in which the integration of digital systems has become essential to respond to the growing demands for efficiency, transparency, and adaptability in the educational environment (Moran, 2017; Kenski, 2012).

Moran (2017) and Kenski (2012) highlight that digital technologies, when strategically integrated into school management, have the potential to not only streamline administrative processes, but also promote a more collaborative and student-centered educational environment. According to Moran (2017), the digitalization of educational management is not limited to the automation of tasks, but also involves the reconfiguration of pedagogical and organizational practices, aiming at a more efficient education that is connected to contemporary demands. This scenario points to evidence-based educational management, in which data collection and analysis are essential for more effective and informed decision-making (Mesacasa, 2021).

In this context, technological tools such as Academic Management Systems (EMS), distance learning platforms (EAD) and artificial intelligence (AI) have redefined educational management practices. These technologies not only automate administrative processes, but also offer analytical support for more informed and strategic decision-making. Moran (2017) points out that digital transformation in educational management transcends the mere automation of tasks, representing a systemic reconfiguration of pedagogical and organizational practices, with a focus on a more flexible, adaptive, and student-centered education.

Fullan (2007) and Selwyn (2011) reinforce that the adoption of digital technologies in educational institutions is no longer an option, but a strategic necessity for sustainability and organizational growth. Fullan argues that the effective use of digital technologies offers managers a holistic view of school functioning, allowing for more assertive and informed actions. Selwyn, in turn, notes that these tools constitute a critical infrastructure for modern management, integrating teaching, learning, and administration in a fluid and coherent way.

Codes, Araújo, and Turchi (2024) emphasize the importance of educational leadership in the digitalization process of educational institutions, highlighting that well-implemented digital practices allow for greater transparency and participation of the entire

school community. In addition, Kenski (2012) points out that the digitalization of educational management contributes to making learning times and spaces more flexible, offering greater personalization in educational processes and strengthening managers' ability to make decisions based on concrete data and in real time (Marques, 2024).

In view of this scenario, this article aims to carry out a literature review on innovative practices and digital tools applied to educational management, analyzing their contributions, challenges and impact on educational institutions. The research aims to identify key global and local trends, as well as the obstacles that still limit the effective implementation of these technologies. The analysis will be based on recognized national and international authors, offering a comprehensive and updated view on the subject.

METHODOLOGY

The present research adopted a qualitative approach through a literature review, with the objective of identifying, analyzing and synthesizing existing studies on innovative practices and digital tools applied to educational management in the digital age. This method was chosen because it allows an in-depth understanding of the theoretical and empirical contributions of different authors, offering a critical and integrated view of the theme addressed (Gil, 1987; Bardin, 2016).

The search for scientific material was carried out in academic databases of international and national relevance, such as *Google Scholar* and journals specialized in education and educational technologies. The selection followed pre-established criteria:

- Publication period: Articles published in the last ten years (2013–2023).
- Thematic relevance: Studies that directly address innovative practices and tools applied to educational management.
- Type of study: Empirical research, systematic reviews, case studies and theoretical articles.
- Languages: Publications in Portuguese and English.

The data analysis followed the content analysis guidelines proposed by Bardin (2016), involving three main stages: exploratory reading; selective and analytical reading; and critical interpretation.

The selected sources underwent a critical evaluation as to their credibility, academic relevance and scientific impact. Classical authors, such as Moran, Kenski, Fullan and Selwyn, were prioritized, as well as contemporary studies that brought significant contributions to the discussion.

The interpretation of the collected data sought to establish connections between the different studies, identifying trends, challenges and opportunities related to digital transformation in educational management. This process allowed the construction of a comprehensive overview of the impact of technological innovations in the educational context, focusing on their practical application and the structural and cultural challenges involved.

LITERATURE REVIEW
DIGITAL TRANSFORMATION IN EDUCATIONAL MANAGEMENT

Digital transformation has proven to be one of the main driving forces for change in the contemporary educational scenario, directly impacting the management of educational institutions at strategic, operational, and pedagogical levels. The introduction of digital technologies in school administration not only optimizes processes, but also profoundly changes the way managers make decisions, organize activities, and communicate with the school community. As Lévy (1999) states, digitalization transforms the flow of information, allowing a new form of "collective intelligence", which enhances connectivity and collaboration within educational organizations.

As highlighted by Moran (2017), educational management in the digital age can no longer be dissociated from technologies, which have become an integral part of the educational environment, optimizing everything from administrative organization to pedagogical planning. Moran argues that digital technologies offer fundamental support for managers to be able to deal with the growing complexity of educational institutions, making processes more efficient and integrated. From this perspective, digital platforms and academic management systems have become crucial for organizing data, making informed decisions, and monitoring the performance of both students and the institution as a whole.

Fullan (2007) states that technology can catalyze significant changes in schools, by providing tools that enable more effective, data-based educational leadership oriented towards continuous improvement. He points out that digitalization allows educational managers to have access to information in real time, which facilitates rapid and evidence-based interventions. For the author, the impact of digital technologies on educational management goes beyond the simple automation of tasks; It is a structural transformation that modifies the way schools function and how managers deal with complex challenges.

The implementation of Enterprise *Resource Planning* (ERP) systems in educational institutions is a clear example of this digital transformation. According to Rodrigues, Loureiro, and Carvalho (2022), these platforms offer a unified solution for the control of

administrative, financial, and academic processes, promoting a systemic view of the school and facilitating communication between the various sectors. The author states that educational ERPs are capable of integrating all departments of the institution, allowing for centralized and more efficient management. This centralization of data and processes ensures that managers can make decisions based on accurate and real-time information, optimizing resource allocation and personnel management.

Digital transformation also enables more flexible and agile management, which meets the demands of an increasingly connected society. For Kenski (2012), the use of technologies in educational management allows for the flexibility of times and spaces, helping educational institutions to adapt to new realities, both from an organizational and pedagogical point of view. The author suggests that digital management is capable of fostering new forms of organization of pedagogical and administrative work, breaking with traditional models of teaching and management and promoting greater personalization of educational experiences.

On the other hand, Selwyn (2011) emphasizes that digital transformation in schools should be seen as part of a broader process of social and technological change. It also argues that the digitalization of education is not an isolated phenomenon, but is intrinsically linked to the economic and cultural transformations of contemporary society. In this sense, digitalized educational management reflects the demands of a society that values information, connectivity, and collaboration, aspects that are essential for the success of institutions in the globalized scenario.

Although the digitalization process is advancing, there are still many challenges, such as the lack of adequate infrastructure and resistance to change on the part of managers and teachers. According to the authors, the integration of technologies in educational management requires not only investments in equipment, but also a change in mentality on the part of managers, who need to understand the potential of these tools to transform school administration. Thus, the continuous training of managers is essential for technology to be used effectively, promoting not only the modernization of processes, but also the improvement of educational results.

Thus, digital transformation in educational management represents an inevitable and necessary movement for educational institutions to remain relevant and effective in an increasingly competitive and dynamic context. The integration of digital technologies into school management routines enables a more efficient, collaborative, and data-centric administration, in addition to contributing to greater flexibility in the organization of pedagogical and administrative processes. However, as Moran (2017) points out,

technology alone is not capable of solving the challenges of educational management; There needs to be a profound change in the organizational culture of institutions, so that they can fully take advantage of the potential of digital tools.

DIGITAL TOOLS IN EDUCATIONAL MANAGEMENT

The use of digital tools in educational management has been consolidated as an essential practice to improve administrative efficiency, communication, and decision-making in educational institutions. With the growing adoption of these technologies, educational managers are able to centralize information, organize processes, and integrate different areas of the school or university. According to Moran (2017), digital tools are indispensable facilitators of a more agile and efficient educational management, providing managers with a global and detailed view of the institution's functioning.

Among the most used tools in educational management, Academic Management Systems (EMS), Distance Learning Platforms (EAD) and Internal Communication Tools stand out, each playing a strategic role in the modernization of school management.

Academic Management Systems (EMS) have become central to the administration of educational institutions, allowing the automation of tasks such as enrollment, attendance control, evaluation, and issuance of report cards. According to Rodrigues, Loureiro, and Carvalho (2022), SGAs are essential for school management, as they centralize the control of academic information, allowing a global view of educational activities and facilitating the management of student data. These systems not only reduce the time dedicated to administrative tasks but also increase the accuracy and transparency of processes, which is critical for institutional efficiency.

Fullan (2007) points out that digital systems, when integrated into the educational environment, significantly improve the ability of managers to monitor student progress and adapt administrative and pedagogical practices according to emerging needs. In addition, these systems offer detailed analytical reports, enabling managers' decisions to be based on concrete data, which is essential for evidence-driven educational management (Mesacasa, 2021).

Distance Learning Platforms (EAD) also play a central role in educational management, especially in hybrid or fully online teaching contexts. Tools such as *Google Classroom*, *Microsoft Teams,* and *Canvas* offer not only pedagogical support, but also administrative features, such as class organization, student performance monitoring, and didactic content management. According to Coqueiro and Sousa (2021), these platforms

have become indispensable for educational institutions, since they allow for more flexible and efficient administration, especially in times of remote teaching.

The digitization of administrative processes through distance learning platforms facilitates communication between managers, teachers, and students, in addition to enabling real-time monitoring of pedagogical activities. Kenski (2012) reinforces that the use of these technologies breaks with the limitations of time and space in education, allowing managers to organize the flow of activities in a more efficient and personalized way. In this sense, the use of digital teaching platforms goes beyond the pedagogical function, offering support for a more integrated and dynamic management.

Another group of essential tools for educational management are the Internal Communication Tools, which help in the coordination of teams and in the organization of administrative tasks. Applications such as *Slack*, *Trello,* and *Google Workspace* have been widely used to improve collaboration between different sectors of the school, promoting more efficient management of workflows. According to Lagoa (2021), these digital tools provide more fluid and organized communication, which is crucial for the proper functioning of any educational institution, especially in complex environments.

The use of internal communication tools allows managers to organize meetings, delegate tasks, and track the progress of activities in a more efficient and transparent way. Selwyn (2011) observes that the digitalization of communication in the educational environment not only improves administrative efficiency, but also promotes a culture of collaboration and transparency among the various actors of the institution. This is particularly important in large institutions, where efficient communication is critical to management success.

Tools based on data analysis and artificial intelligence (AI) have gained prominence as innovative resources in educational management. Data analysis systems allow managers to collect and interpret information about student performance and the functioning of the institution as a whole. According to Alves (2023), the application of AI in education has been transforming the way managers and educators make decisions, offering predictive insights that can improve the management of educational resources and prevent problems such as school dropout.

The use of AI-based early warning systems, for example, allows managers to identify students at risk of dropping out of school, enabling early and personalized interventions. Moran (2017) highlights that AI applied to educational management can automate complex processes and provide recommendations based on large volumes of data, facilitating faster and more accurate decisions.

The integration of digital tools is essential to ensure that managers can monitor all the institution's activities in a centralized and efficient way. Rodrigues, Loureiro, and Carvalho (2022) highlight that the integration of systems such as EMS, distance learning platforms, and internal communication tools offers a systemic and holistic view of the school, allowing for a unified management of pedagogical and administrative processes. In addition, the centralization of information in a single digital environment contributes to transparency and accountability in educational management.

However, the integration of these tools also presents challenges, such as resistance to change and the need for training of professionals. According to Silva and Batista (2024), digital transformation in educational management requires managers and teachers to be trained to use digital tools effectively, ensuring that they fulfill their role of promoting more efficient and innovative management. Therefore, it is crucial that institutions invest not only in technology, but also in the continuous training of their managers and administrative teams.

INNOVATIVE PRACTICES IN EDUCATIONAL MANAGEMENT

The introduction of innovative practices in educational management is essential to face the challenges and opportunities brought by the digital age. Traditional educational management, based on rigid and hierarchical structures, is gradually being replaced by more flexible models centered on the use of data and digital technologies. These innovative practices involve the use of methodologies such as gamification, artificial intelligence, and data-driven decision-making, which aim to improve administrative efficiency, student performance, and communication between the different actors in the school environment.

Gamification — the use of game elements in non-game contexts — is an emerging practice that has been used in educational management to increase the engagement of students, teachers, and even administrative staff. According to Mora-Brenes and Moreno-Rodríguez (2023), gamification enables the creation of more dynamic and motivating management environments, by introducing elements of healthy competition, rewards, and continuous feedback, typical characteristics of games. In the context of educational management, gamification can be applied in various areas, from motivating administrative teams to monitoring the progress of institutional projects.

The introduction of gamified platforms for school management, such as systems that use rankings and rewards to encourage participation and performance, has shown promising results. According to Deterding *et al.* (2011), gamification provides greater user involvement, creating an environment where problem solving and goal achievement are

encouraged through stimuli that refer to pleasure and motivation. In practice, managers can use gamification to monitor the performance of their teams and promote collaboration between sectors, which, according to the authors, can increase the effectiveness of administrative and pedagogical actions.

In Brazil, gamification has also been explored as a strategy to involve managers and teachers in training and qualifications, aiming at the incorporation of innovative practices in school daily life. According to Codes, Araújo and Turchi (2024), gamification in training managers and teachers has been an effective strategy to encourage the adoption of new technologies and educational methodologies, since participants are more actively involved in the learning process. In addition, gamification can be used to create more dynamic learning environments, in which managers have the opportunity to experiment with innovative practices in a simulated context before implementing them in their institutions.

Another innovative practice that is becoming increasingly common in educational management is the use of artificial intelligence (AI) to support decision-making. AI has proven to be a powerful tool in education, not only in the pedagogical field, but also in management, by automating processes and providing predictive analytics based on large volumes of data. Alves (2023) states that AI offers educational managers the ability to quickly analyze large amounts of academic data, identify patterns of behavior, and predict potential problems, such as school dropout or a drop in student performance.

AI tools are widely used in universities and schools around the world to identify students at risk of dropping out or failing academically. According to Romero and Ventura (2010), these tools use machine learning algorithms to analyze student behavior and performance, giving managers a clear view of which students need immediate intervention. In addition, AI can be applied to optimize the use of resources, such as teacher allocation, school infrastructure management, and strategic planning.

In the Brazilian context, AI has begun to be applied in pilot projects in some higher education institutions, with promising initial results. According to Marcom and Porto (2023), the introduction of AI systems in academic management has allowed the creation of dashboards that help managers monitor performance in real time and make more agile and accurate decisions. However, the authors warn that the full adoption of these technologies still depends on investments in infrastructure and training, in addition to overcoming cultural barriers related to the use of AI in education.

Data-driven educational management is an emerging practice that aims to improve the effectiveness of institutional decisions by using quantitative and qualitative information to inform decision-making. According to Gaftandzhieva1 *et al.* (2023), the practice of *data-*

driven decision making in schools and universities allows managers to use data to predict trends, identify problems and opportunities, and optimize the use of resources. The use of data for management allows for a clearer and more objective view of institutional performance, promoting more transparent management and *accountability* at all levels.

Tools such as *Business Intelligence* (BI) systems and data analysis have been widely applied in educational institutions, especially in higher education. These tools allow managers to collect, integrate, and analyze data from different sources, such as academic management systems, learning platforms, and institutional assessments. According to Fullan (2007), the ability to make decisions based on concrete data has transformed educational management, offering managers the possibility of adjusting policies and strategies in real time, according to the needs of the school community.

In Brazil, initiatives aimed at data-driven management have advanced, especially in private education networks. Codes, Araújo, and Turchi (2024) state that data-driven management allows managers to make more informed decisions that are aligned with the needs of students, which is essential to improve institutional performance in a scenario of growing demands for *accountability*. However, the authors note that despite the advances, there is still a significant gap in infrastructure and organizational culture in many public institutions, which makes it difficult to fully adopt this practice.

Despite the benefits, the implementation of these innovative practices faces significant challenges, such as resistance to change, lack of training of professionals, and high implementation costs. For Fullan (2007), one of the main barriers to the adoption of innovative practices in educational management is the lack of a culture of innovation in educational institutions, which prevents these technologies from being adopted effectively. Moran (2017) adds that the continuous training of managers and teachers is essential to ensure that digital tools and innovative practices are effectively integrated and generate the expected results.

In addition, the need for significant investments in technological infrastructure remains a major obstacle, especially in developing countries. According to Selwyn (2011), the inequality of access to technology in different school contexts limits the ability of many educational institutions to adopt innovative management practices in an equitable and effective way. Therefore, it is crucial that public policies aimed at education include the modernization of infrastructures and the training of professionals so that innovations in educational management can be widely implemented.

CHALLENGES AND LIMITATIONS OF DIGITALIZATION IN EDUCATIONAL MANAGEMENT

While digital tools and innovative practices have the potential to transform educational management, the adoption of these technologies is not without its challenges and limitations. The transition to a digitalized environment requires structural and cultural changes in educational institutions, and resistance to change, lack of adequate infrastructure, and concerns about data privacy are some of the main obstacles pointed out by scholars in the field (Fullan, 2007; Selwyn, 2011). Thus, the full implementation of these innovations depends on a number of factors, from the development of digital skills to addressing technological inequalities between schools.

Resistance to change is one of the main challenges faced in the adoption of digital technologies in educational management. Many managers and teachers, accustomed to traditional administrative practices, are reluctant to integrate new technological tools into their daily lives, which can compromise the effectiveness of digital innovations. According to Fullan (2007), resistance to change is not just a technical issue, but a deep cultural barrier that is rooted in long-standing habits and routines. For the author, digital transformation in schools will not be fully effective unless there is a coordinated effort to change the institutional culture, promoting a shared vision of the benefits of technologies.

Silva and Batista (2024) observe that, in many educational institutions, resistance to the adoption of digital tools is related to a lack of familiarity with these technologies. According to the authors, many managers and teachers see the introduction of new tools as a threat to their traditional management practices, which creates barriers to their effective implementation. This indicates the need for a more inclusive and collaborative approach, which involves the active participation of all members of the school community in the digitalization process.

Another significant obstacle is the lack of technological infrastructure in educational institutions, especially in developing countries, where access to technology is often limited. Modernizing school infrastructure is an essential requirement for the effective implementation of innovative digital management practices, but many schools face difficulties in obtaining the necessary financial resources. Kenski (2012) highlights that the lack of adequate connectivity, up-to-date computers and technical support are barriers that prevent the full adoption of digital technologies in schools. Without a robust technological infrastructure, the digitalization of educational management becomes unfeasible.

In addition, technological disparities between public and private schools exacerbate the problem, creating a scenario of inequality in the adoption of innovations. According to

Selwyn (2011), educational technology often reinforces existing inequalities, as schools with more resources are able to adopt digital innovations faster and more effectively than those with limited budgets. This scenario points to the need for public policies that ensure equitable investments in technology, in order to reduce the disparity in access to digital innovations.

The professional training of managers and teachers is a crucial factor for the success of the digitalization of educational management. According to Moran (2017), technology alone does not guarantee improvements in school management; It is necessary for managers and educators to develop the digital skills necessary to use the tools effectively. He also argues that continuous training and professional development are essential to ensure that technological innovations are fully taken advantage of and that education professionals are prepared to deal with the new challenges brought about by the digital age.

In consonance, Kenski (2012) points out that digital competence involves not only the technical knowledge of the tools, but also the ability to apply these technologies critically and creatively in the educational context. However, many managers and teachers still lack these skills, which limits the transformative potential of digital technologies. To overcome this limitation, it is necessary for institutions to invest in training and continuous professional development programs, which prepare educators for management and teaching in a digital environment.

The increasing digitization of educational management also raises concerns about data privacy and security. With the use of digital tools that collect large volumes of personal information about students, teachers, and administrators, schools face the challenge of protecting this data from unauthorized access and privacy violations. According to Selwyn (2011), data protection is one of the biggest challenges of digital education, as educational institutions deal with sensitive information that, if not adequately protected, can be used inappropriately.

The General Data Protection Law (LGPD), implemented in 2020 in Brazil, brought new challenges to educational institutions, which now need to adapt to strict rules on the processing of personal data. According to Candiani and Pereira (2024), the implementation of the LGPD in schools is a complex process that requires the review of institutional practices and the development of new digital security protocols. The adoption of digital technologies in educational management, therefore, must be accompanied by an awareness of the importance of data privacy and concrete measures to ensure information security.

The cost of implementing new technologies is another challenge that many educational institutions face. The acquisition of *software*, the maintenance of systems, and the professional training required for the implementation of digital tools can be financially prohibitive for schools with limited budgets. Selwyn (2011) notes that the initial cost of implementing technological innovations is often a significant obstacle, especially for public institutions facing budget constraints. This means that many schools, even if they are aware of the benefits of digital tools, end up not being able to implement them due to financial limitations.

In Brazil, the lack of funding for the technological modernization of public schools is a recurring issue. Many educational institutions, particularly in the public sector, face difficulties in securing resources that enable the updating of their technological infrastructures and the training of professionals. For technological innovations to be adopted equitably, it is essential that there is a political and financial commitment to digital education, so that all institutions can benefit from these practices (Codes, Araújo and Turchi, 2024).

Despite the challenges, the literature suggests some solutions to overcome these barriers. It is important to highlight that effective educational leadership is essential to face resistance to change and promote a culture of innovation in schools. The training of digital leaders, who can act as facilitators in the digital transformation process, is essential to ensure the success of innovations. In addition, Moran (2017) suggests that the implementation of digital technologies should be gradual, accompanied by continuous training programs, so that managers and teachers can adapt more efficiently to new practices.

Public policies that encourage the financing of educational technologies and the training of managers are also essential to reduce technological inequalities and promote equity in access to innovations. As Kenski (2012) points out, it is necessary for the government and educational institutions to work together to ensure that all schools, regardless of their economic context, have access to the tools and training necessary for effective and innovative management.

FINAL CONSIDERATIONS

Educational management in the digital age has undergone a significant transformation, driven by the adoption of digital technologies and innovative practices that aim to increase the efficiency, transparency, and personalization of administrative and pedagogical processes. Digital tools, such as EMS, distance learning platforms, and

solutions based on Artificial Intelligence, are redefining school administration strategies, providing managers with more robust tools for making informed and strategic decisions.

However, despite the evident advantages provided by digital transformation, its implementation still faces significant challenges. Among the main obstacles are the resistance to change on the part of education professionals, the lack of adequate technological infrastructure, the urgent need for professional training, and the growing concerns about data privacy and security. These factors show that digital transformation in educational management is not just a technical issue, but a cultural and organizational process that demands a clear vision, effective leadership, and a continuous commitment to innovation.

The creation of an organizational culture that values adaptation to new technologies, the use of data as a basis for decision-making, and the promotion of active methodologies, such as gamification, is essential to ensure that digital tools are effectively integrated into management practices. In addition, adequate investments in technological infrastructure, continuing education programs, and public policies that promote equity in access to educational technologies are essential to reduce existing inequalities between public and private institutions.

Given this scenario, it is evident that the potential of digital technologies in educational management goes far beyond the simple automation of processes. When implemented strategically, these tools have the power to optimize the use of resources, improve academic results, and strengthen communication between the different actors involved in the educational process.

For this potential to be fully realized, a joint effort between educational managers, education professionals, governments and other agents involved is essential in order to create a favorable environment for sustainable innovation. Thus, it will be possible to build educational institutions that are more efficient, inclusive, and prepared for the challenges and opportunities of the digital age.

Future research should focus on taking a deeper look at the impacts of emerging technologies, such as artificial intelligence, on decision-making and institutional performance. The continuous evolution of these technologies signals a future in which educational management will be increasingly data-driven, underpinned by advanced digital tools, and aligned with the demands of a globalized and connected society.

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