

Automation of Administrative Processes as a Strategy for Reducing Bureaucracy in Schools

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ABSTRACT : This study aims to analyze the role of administrative process automation as a strategy for reducing bureaucracy in pre-university educational institutions. The integration of technology in school management has brought new opportunities for improving the efficiency, transparency, and quality of administrative services. This paper examines digital platforms and information management systems that can be used to automate processes such as student registration, timetable management, attendance reporting, and communication with parents. Through a research approach that combines a literature review, case studies, and interviews with school leaders, the benefits of automation in reducing unnecessary procedures, saving time, and facilitating administrative staff's work are assessed. The results show that automation contributes significantly to increasing institutional efficiency, but also requires strategic planning, ongoing training, and financial support to ensure sustainability and long-term success. This study provides practical recommendations for school leaders who aim to implement smart management and reduce bureaucracy through technology.

KEYWORDS - Administrative automation, Bureaucracy reduction, Educational innovation, School management, Technology in education

I. INTRODUCTION

Digital transformation has become a necessity for educational institutions that aim to increase management efficiency and service quality. Schools, as complex organizations, face a series of administrative processes that are often characterized by bureaucratic burden, procedural delays, and inefficient communication with internal and external stakeholders (Savitska, 2025). Automating these processes, through digital platforms and information management systems, is a strategy that not only reduces the administrative burden but also improves the quality of school management.

Bureaucracy in the school context, while necessary for transparency and order, can often become a barrier to innovation and efficiency. Studies show that the use of technology for human resource management, schedules, attendance, communication with parents, and academic reporting creates a faster and more accurate decision-making environment (Marini & Meschitti, 2025). This allows school leaders to focus on strategic objectives of teaching and student development, rather than spending time on manual and repetitive procedures.

The use of technology in school management has gone through several phases of development over the past few decades. Initially, in the 1980s–1990s, computers were used primarily for basic word processing and electronic archiving. In the early 2000s, with the spread of the Internet and local area networks, the first management information systems (MIS) were developed that allowed for the digital management of student and staff data (Selwyn, 2016).

After 2010, the digital transformation in education accelerated significantly with the integration of online and cloud platforms. Computing and educational resource management applications. Globally, countries such as Finland, Singapore, and Estonia are successful examples of the transition to fully automated school administration. Finland has integrated the Wilma system, a national platform that connects teachers, parents, students, and administration for managing attendance, grades, and communication (Finnish National Agency for Education, 2021). Singapore has implemented School Cockpit, a central automated system that collects and analyzes real-time data on student performance, resources, and teaching (Ministry of Education Singapore, 2022). Estonia, known as a leader in e-government, has included all schools in a unique system called eKool,

which manages registrations, schedules, attendance, and communication with the educational community (Estonian Education Information System, 2020). In the Balkan region, the process has been more gradual. Countries such as Slovenia and Croatia have developed national platforms such as e-Asistent and e-Matica, which have significantly reduced the need for physical documentation and increased transparency in data management (European Commission, 2023). In Albania, in recent years, the use of digital systems such as SMIP (Examination Institutions Management System) has increased; however, the full integration of automation into all administrative processes remains an evolving objective. This global and regional evolution shows that the automation of school administration is not just a technological trend, but a necessity to meet the demands of 21st-century education and to improve the efficiency of educational institutions.

Therefore, best practices from different education systems show that automation requires careful strategic planning, technical support, and ongoing staff training (Mandela & Ambarawati, 2025). Furthermore, successful implementation of technology requires an organizational culture that embraces change and is willing to integrate new work practices.

This study aims to analyze the impact of automation in reducing bureaucracy in school administration, focusing on the benefits, challenges, and recommendations for school leaders. Through a literature review and case study analysis, this research provides an evidence-based approach to modern school management in the digital age.

1.1. Rationale and Importance of the Research

Digital transformation in school administration has become a strategic priority for education systems that aim to improve the efficiency and quality of services. Traditional processes, based on manual documentation and slow procedures, often create bureaucratic obstacles that negatively affect the functioning of schools (Renna & Colonnese, 2025). The automation of administrative processes not only reduces the time and cost of operations but also helps to increase transparency and accountability.

In the post-COVID-19 era, the increased use of e-government platforms has shown great potential to minimize bureaucratic hurdles and increase educational stakeholders' access to fast and efficient services (Ilawagbon & Ajisebiyawo, 2024). This is particularly important in the context of pre-university education, where staff time and human resources should be directed towards improving teaching and not excessive administrative procedures.

Contemporary literature also highlights that the use of artificial intelligence and automation tools can significantly reduce administrative burdens, creating a more flexible and innovative work environment (Günçavdı-Alabay, 2024). This makes this research necessary, as it addresses not only the technological aspect of automation, but also its impact on organizational culture and improving services to students and the community.

1.2. Problem Identification

Many educational institutions still rely on traditional administrative management procedures, which are characterized by manual processes, physical documentation, and a bureaucratic structure that often hinders efficiency. These bureaucratic obstacles affect the response time to the needs of teachers, students, and parents and reduce the ability of staff to focus on improving the quality of education (Krychivskyi, 2024).

Although information and communication technologies have been adopted in some schools, the partial integration of automated systems creates challenges such as duplication of work, lack of standardization, and potential data errors (Kulachynskyi & Kamenchuk, 2024). These problems become even more evident in cases where a clear strategy for re-engineering internal processes and for adapting staff to new technological tools is lacking (Renna & Colonnese, 2025).

Furthermore, the lack of a unified electronic management system makes decision-making slow and dependent on unnecessary hierarchical approvals. This not only increases the processing time of administrative tasks but also reduces transparency and makes it more difficult to monitor institutional performance (Malicse, 2024).

Therefore, the fundamental problem that this research aims to address is that, despite technological developments and the opportunities offered by automation, many schools have not fully and integratedly implemented this approach, still maintaining structures that slow down organizational development and innovation.

1.3. Research Purpose and Objectives

Overall goal

The purpose of this research is to analyze the role of administrative process automation as an effective strategy for reducing bureaucracy in schools and improving the efficiency of educational management. The study aims to provide a practical and theoretical framework for how technology can be applied in an integrated manner to transform school administration.

Specific objectives

1. *To identify existing obstacles in school administrative processes and analyze how they affect organizational efficiency (Krychkivskiy, 2024).*
2. *To assess the potential of information and communication technologies (ICT) to unify and standardize administrative procedures (Kulachynskiy & Kamenchuk, 2024).*
3. *To examine the role of business process re-engineering (BPR) in optimizing resource and time management in educational administration (Renna & Colonnese, 2025).*
4. *To analyze the impact of the lack of full integration of automation systems on delays, costs, and institutional transparency (Malicse, 2024).*
5. *To propose an integrated automation model that can reduce bureaucracy and sustainably improve school management.*

1.4. Research Questions

1. *How does the transition from using traditional books to using tablets and digital platforms affect the motivation and engagement of primary school students?*
2. *What changes occur in teachers' pedagogical approach during and after the integration of tablets into the teaching process?*
3. *What are the main challenges and obstacles faced by teachers and institutions during the transition from books to tablets?*
4. *What practical strategies can be implemented to ease the transition and maximize the benefits of technology in teaching, while maintaining the quality of the learning process?*

II. LITERATURE REVIEW

Bureaucracy in educational institutions is often described as a barrier to innovation and efficiency. According to Adebayo and Okeke (2023), excessive administrative structures and multiple approval processes delay decision-making and make management less flexible. This traditional bureaucratic approach, based on rigid rules and strong hierarchies, limits the ability of managers to adapt to rapid technological and social changes. Along the same lines, Mavuso and Moyo (2024) emphasize that bureaucracy not only slows down administrative processes but also creates an organizational culture where innovation is seen as a risk, not an opportunity. This makes it necessary to redesign procedures so that they support, rather than hinder, digital transformation.

Traditional school administration systems have been largely manual and rely on physical documentation, making them prone to human error and data loss. Kaur and Sandhu (2024) argue that reliance on these legacy systems increases information processing time and limits opportunities for advanced analytics. In addition, Ndhlovu et al. (2023) point out that the use of fragmented technologies, without an integrated management system, leads to duplication of work and a lack of coherence in institutional data. As a result, these systems are not suitable for the demands of modern education and hinder the full adoption of automation and data-driven management strategies.

This is where automation comes into play as a transformative strategy. Contemporary literature shows that moving from these traditional structures to integrated digital systems not only significantly reduces bureaucratic burdens but also improves transparency and efficiency (Renna & Colonnese, 2025; Rajagopal et al., 2024). Furthermore, Günçavdı-Alabay (2024) argues that artificial intelligence can transform the role of administration from a reactive function to a proactive and strategic decision-making center. In this way, automation does not simply represent a technological improvement, but a complete redesign of the way school administration functions in the digital age.

Therefore, digital transformation and automation of administrative processes in pre-university education have received increased attention over the last decade. Researchers emphasize that the integration of new technologies in administration not only improves efficiency but also significantly reduces bureaucratic obstacles and service time (Rajagopal et al., 2024). Process automation, through information management systems and artificial intelligence platforms, has become a key component of modern educational management strategies. Authors Orhani et al. (2023) emphasize that the electronic school management system aims to be efficient and easy to use, as well as to enable easy and professional administration, compared to the manual paper-based method. In their study, the system had an efficient quality to improve school management. School principals should be encouraged to use electronic school management systems, and they should believe that data is a valuable resource for implementing educational reforms. It should be suggested that school managers take the initiative regarding the implementation of such applications.

A new direction in the contemporary literature on school administration automation is the integration of data analytics for strategic decision-making. According to Shonola and Joy (2023), the use of Predictive analytics in educational management can help school leaders anticipate enrollment trends, identify resource needs, and intervene earlier in cases of high risk of school dropout. Furthermore, Balogun and Okafor (2024) argue that integrated management platforms that combine automation with artificial intelligence can personalize communication with parents and students, thereby increasing community engagement and trust. On the other hand, Ncube et al. (2025) emphasize the importance of collaboration between educational institutions and the technology sector to develop sustainable systems that can adapt to rapid technological changes and public policy demands. These studies show that the new wave of digital transformation is not just mechanical automation of procedures, but an integrated approach where data, technology, and organizational strategy work together to increase the quality and efficiency of education.

In a broad study on the impact of process reengineering in higher education, Renna and Colonnese (2025) demonstrate that the use of advanced simulations and analytics can optimize task allocation and human resource management. Similarly, Günçavdı-Alabay (2024) argues that artificial intelligence has great potential to transform the role of educational leaders from bureaucratic administrators to strategic innovation leaders.

Kulachynskyi and Kamenchuk (2024) emphasize that the development of information and educational technologies has significantly changed the way educational organizations plan, monitor, and report their activities. In this line, Janssen et al. (2024) analyze e-government practices and show that the interaction between digital platforms and public policies is essential for the success of administrative transformation.

Rajagopal et al. (2024) present a model of "University 5.0" where automation and integration of digital technologies significantly reduce bureaucracy, allowing more time for teaching and innovation. At the same time, Malicse (2024) points out the importance of harmonizing technology with organizational culture to avoid resistance to change.

Overall, recent literature suggests that for automation to be successful, it is not enough to simply install technology; an integrated approach is required that includes reviewing processes, training staff, and adapting management structures.

III. METHODOLOGY

3.1. Research Approach

This study is based on a qualitative research approach, which aims to provide an in-depth understanding of the experiences and perceptions of school leaders on the process of administrative automation. The qualitative approach enabled the exploration of the internal dynamics of the school and the identification of factors that influence the reduction of bureaucracy. According to Creswell and Poth (2018), qualitative research is suitable for studies where the aim is to interpret meanings and practices within a specific context, rather than testing general hypotheses. In this context, this approach allowed for the detailed analysis of administrative processes, the challenges of implementing technology, and perceptions of its impact.

3.2. Study Design

The chosen design is a multiple case study, which analyzed two schools purposefully selected to reflect different levels of automation integration. According to Yin (2018), this design is valuable when the goal is to understand a contemporary phenomenon within its real-world context and compare different experiences. In this study, the use of multiple case studies provides a more complete picture and allows the identification of similarities and differences between schools that are at different stages of digital transformation.

3.3. Participants

Participants include principals, coordinators, and school staff from two pre-university education schools. Those of the preschool institute "Zambaku" in Prizren and the primary and lower secondary school "Heronjtë e Lumës" in Vërmica Prizren from the Republic of Kosovo. The selection was made through purposive sampling, with the aim of including institutions representing a wide spectrum of automation levels from schools that have implemented integrated digital systems to those that still use predominantly manual procedures. This type of selection ensures that the study includes diverse perspectives on the challenges and benefits of automation.

3.4. Data Collection Instruments

Data were collected through semi-structured interviews, institutional document analysis, and direct observation of administrative processes. Semi-structured interviews were chosen for the flexibility they offer in exploring anticipated topics and those that arise spontaneously during the conversation (Braun & Clarke, 2019). Document analysis, including annual reports, administrative instructions, and technological development plans, provides important data for understanding the institutional framework and internal policies. Direct observation, on the other hand, allows for the identification of actual management practices and their comparison with documented procedures.

3.5. Research Procedures

The research process followed several well-structured steps. Initially, the principals of the selected schools were contacted to secure their consent to participate. Subsequently, interviews were conducted with the identified participants, and relevant institutional documents were collected. In parallel, administrative process observations were conducted over three months to provide empirical data on the functioning of the current systems and their level of automation.

3.6. Data Analysis

Data analysis was conducted using thematic analysis according to the model of Braun and Clarke (2019), which includes six stages: familiarization with the data, initial coding, identification of themes, review of themes, their definition, and final reporting. This method allowed for structuring the information into clear categories and highlighting connections between the different experiences of the participants. The analysis was conducted manually and with the help of qualitative analysis software, such as NVivo, to increase the accuracy and consistency of the results.

3.7. Ethical Issues

The study strictly adhered to the ethical principles of scientific research. Participants were informed in advance about the aims of the study and gave informed consent to participate. The anonymity and confidentiality of the data were guaranteed, avoiding any information that could identify individuals or institutions. All data collected was used for academic purposes only and was stored securely.

IV. RESULTS

This chapter presents the findings of research conducted in two pre-university educational institutions in Prizren: The Pre-School Institute “Zambaku” and the Primary and Lower Secondary School “Heronjtë e Lumës” in Vërmica. Data were collected through semi-structured interviews with principals, coordinators, and staff, as well as through the analysis of institutional documents and direct observation of administrative processes. The results presented here reflect the perceptions, experiences, and current practices of the participants regarding the level of automation, its impact on reducing bureaucracy, and the challenges of implementing digital systems. The analysis aims to compare the experiences of the two schools, which represent different levels of technological integration, highlighting common trends and specific differences related to digital transformation in school administration.

4.1. Results from the Interview

The analysis of semi-structured interviews with the leaders and administrative staff of the two educational institutions highlighted several key themes related to the level of automation, its impact on reducing bureaucracy, and improving the efficiency of administrative processes.

At the Primary and Lower Secondary School “Heronjtë e Lumës”, where an integrated and functional automation system has been implemented, participants reported significant benefits in record management, data reporting, and communication with parents. One manager stated that “the system has saved us hours of work per week, making many of the manual steps that were previously time-consuming unnecessary.” At the “Zambaku” Preschool Institute, the level of automation is partial and often combined with manual procedures, which limits the full benefits of the technology. Staff emphasized that some processes are still carried out traditionally, particularly due to the lack of an integrated platform.

During interviews with staff from two educational institutions, different attitudes and experiences were identified on the impact of automation on administrative processes. At the Primary and Lower Secondary School “Heronjtë e Lumës”, the principal emphasized that “The new system has saved us a lot of time. Previously, we had to prepare reports manually for days, now one click is enough”, reflecting the increased efficiency brought by the use of the integrated platform. This is consistent with the perception of the teaching staff, where one teacher stated that “Automation has significantly improved communication with parents. They receive notifications and reports in real time”. The school coordinator also emphasized the long-term benefits of digitizing the archive, emphasizing that “Compared to a few years ago, we now have a completely digital archive and this makes it much easier to find documents”.

In contrast, the Preschool Institute “Zambaku” presented a more fragmented situation, where, despite the use of some digital tools, the processes are not fully integrated. An administrative employee explained that “Even though we have some digital tools, we often have to collect data from different sources, and this takes a long time to process”, while the head of the institution added that “The biggest problem is that we do not have a unified system. We have to use several programs and this often creates inconsistencies in the data”. These contrasting experiences reflect the direct impact that the level of automation has on the efficiency, transparency, and quality of administrative management in schools.

Likewise, participants from “Heronjtë e Lumës” reported a significant reduction in bureaucratic burden, with documentation and approval processes carried out mainly digitally, which has increased the speed of decision-making and the efficiency of daily work. In “Zambaku”, although some functions are automated (e.g., sending notifications), the lack of full integration means that a large volume of manual bureaucratic work remains.

In “Heronjtë e Lumës”, the main challenges are related to the technical maintenance of the system and the need for regular software updates. Meanwhile, “Zambaku” faces a lack of sufficient infrastructure and the need for additional staff training, who are often more accustomed to traditional procedures than to digital tools.

In “Heronjtë e Lumës” communication with parents and authorities has been significantly accelerated thanks to automatic reporting and centralized data access. In “Zambaku”, communication processes often require manual mediation and the use of various independent tools, creating an additional burden for administrative staff.

Table 1. Thematic analysis of the interview

Main Topic	Sub-topics	Quotes from participants
Perception of automation	- Integrated system - Partial automation	- "The system has saved us hours of work per week..." - "We still do some processes on paper due to the lack of a platform."
Reducing bureaucracy	- Reduction of manual procedures - Combined manual-digital use	- "Approval procedures are now done within a day." - "We still fill out physical forms."
Implementation challenges	- Technical maintenance - Lack of infrastructure - Need for training	- "We need to make regular system updates." - "We don't have enough equipment for all the staff." - "The staff needs additional training."
Impact on communication	- Automatic reporting - Manual communication	Manually contact parents for information."

Thematic analysis of the data collected from the interviews highlighted four main themes: perception of automation, reduction of bureaucracy, implementation challenges, and impact on communication. Within these themes, specific sub-themes were identified that reflect the differences between the two institutions studied. In the Primary and Lower Secondary School “Heronjtë e Lumës”, the perception of automation was overwhelmingly positive, linked to an integrated and functional system that has brought about a significant reduction in manual procedures and accelerated approval processes. In contrast, in the Preschool Institute “Zambaku” the level of automation is partial and often combined with traditional methods, which has limited the potential benefits. Common challenges included the need for additional staff training and infrastructure improvements, although in “Heronjtë e Lumës” they are mainly related to technical maintenance and software updates, while in “Zambaku” they are related to the lack of sufficient equipment. The impact on communication was significantly greater in “Heronjtë e Lumës”, where automatic reporting and centralized data access have improved transparency and speed of communication, while in “Zambaku” processes still require manual mediation and various independent tools.

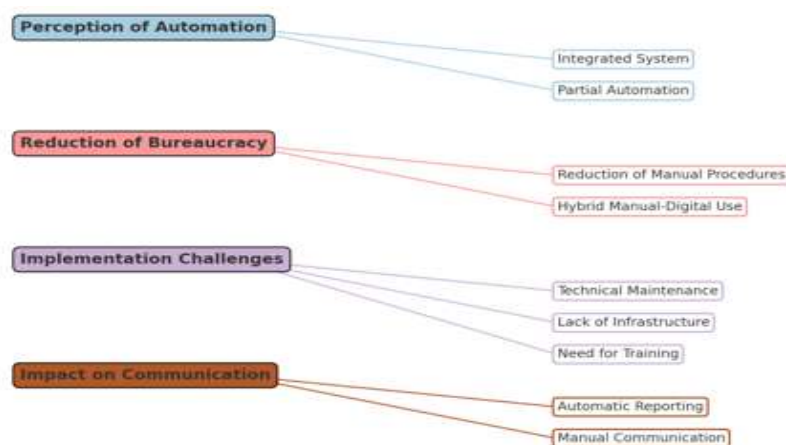


Figure 1. Thematic Analysis

These interview findings show that the level of automation integration directly impacts the efficiency of administrative work, the reduction of bureaucracy, and the quality of communication, making full implementation a key factor for the success of digital transformation in school administration.

4.2. Results from Documentation Analysis

The analysis of institutional documents provided by the two participating schools provided important data on the level of automation integration and its impact on administrative processes. The documents reviewed included annual reports, administrative procedure manuals, admissions registers, technological planning, and reports to local education authorities.

At the Primary and Lower Secondary School “Heronjtë e Lumës”, documents showed a high degree of digitalization and centralization of information. Annual reports and student records were automatically generated by the integrated system, containing real-time updated data on attendance, academic success, and extracurricular activities. In addition, reporting procedures for municipal authorities and parents were standardized and automated, which significantly reduced the time for their preparation and submission.

At the Preschool Institute “Zambaku”, documents reflected a situation of partial automation, with some processes being carried out digitally, while others remained manual. For example, admissions records were stored in an electronic format, but monthly reports to municipal authorities were still prepared and submitted in physical form. Administrative procedure manuals showed the lack of an integrated system, forcing employees to use several independent platforms or traditional methods for different tasks.

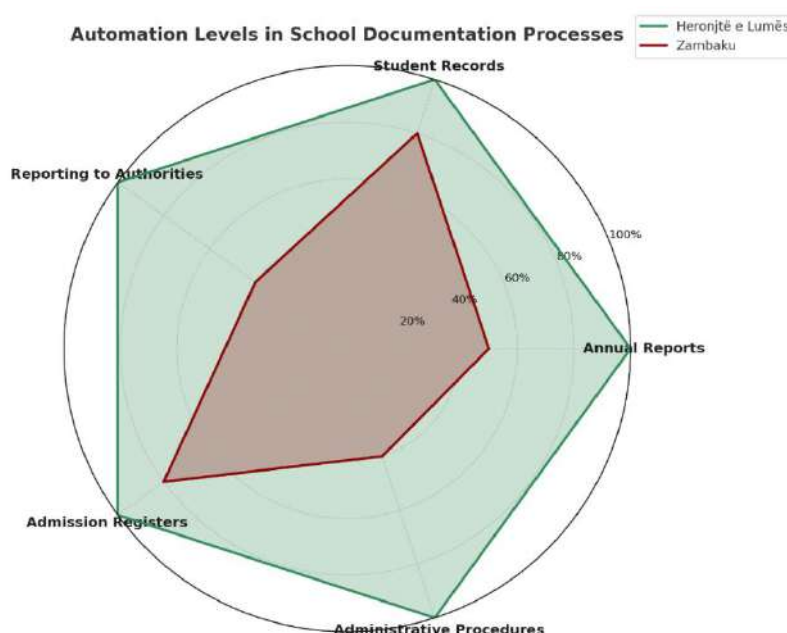


Figure 2. Results from the documentation analysis

Comparing documents from both institutions highlighted that schools with integrated automation systems, such as “Heronjtë e Lumës”, not only manage to reduce bureaucracy, but also create a strong foundation for transparency and data-driven decision-making. Meanwhile, institutions with partial automation, such as “Zambaku”, face challenges in coordinating information and maintaining consistency in reporting, which can negatively impact administrative efficiency and the quality of institutional communication.

4.3. Results from Direct Observation of Administrative Processes

Direct observation of administrative processes in the two participating institutions provided a clear insight into the practical functioning of the existing systems and the level of automation implemented. This process included daily monitoring of the work of administrative staff, the way data is managed, reporting and communication procedures, and the use of technological tools in the administrative offices.

At the “Primary and Lower Secondary School “Heronjtë e Lumës”, a high degree of technological integration was observed in the management of administrative processes. Most tasks, including student registration, report generation, and communication with parents, were carried out through a centralized platform. The observation showed that the staff had good skills in using technology, significantly reducing data processing time and eliminating the need for repetitive manual procedures. For example, the distribution of curricula was carried out in real time and was accessible to the school coordinator and principal within a few minutes.

At the Preschool Institute “Zambaku”, the level of automation was more partial and fragmented. Despite the presence of some digital tools, a significant number of procedures continued to be carried out manually. For example, monthly reports for local authorities were compiled by combining data from several different sources, including physical registers and non-integrated electronic documents. This not only extended processing time but also created opportunities for human errors and data inconsistencies.

Comparison of observations shows that institutions with centralized and integrated systems, such as “Heronjtë e Lumës”, manage to increase the efficiency of administrative management, improve transparency, and significantly reduce the bureaucratic burden. In contrast, the lack of a complete automation infrastructure, as is the case with “Zambaku”, limits the potential for process optimization and creates obstacles to the coordination of information and data-based decision-making.

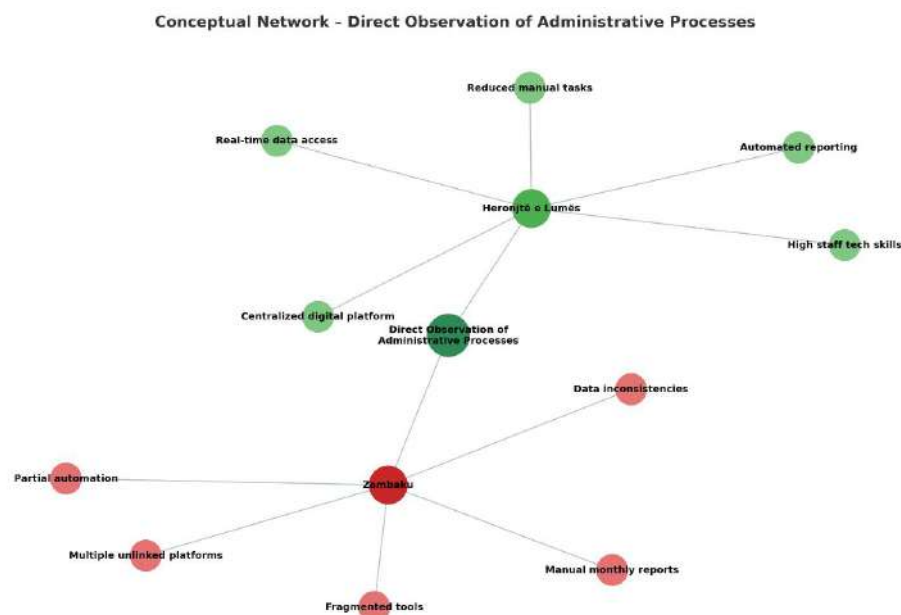


Figure 3. Conceptual Network – Direct Observation of Administrative Processes

Technological development plans in educational institutions aim to create a sustainable and integrated infrastructure that supports the modernization of administrative and teaching processes. In this context, **the** Primary and Lower Secondary School “Heronjtë e Lumës” has foreseen the expansion of the capacities of the school management platform, including new modules for advanced data analysis, automation of communication with parents, and integration with national education systems. On the other hand, **the Preschool Institute “Zambaku”** has planned a transition phase towards full digitalization, which will include the migration of data from physical registers to electronic formats, training staff in the use of new technological tools, and the adoption of a centralized platform for reporting and management. These plans, if successfully implemented, are expected to significantly improve administrative efficiency, increase transparency, and create a solid basis for informed decision-making and pedagogical innovation.

V. DISCUSSIONS

The results of this study highlight the direct impact that the level of automation has on reducing bureaucracy and increasing the efficiency of administrative processes in educational institutions. In line with the findings of Renna and Colonnese (2025), the implementation of integrated platforms and the automation of workflows significantly reduces the time required for approvals and reporting, thus easing the administrative burden on staff. This is particularly important for institutions aiming for data-driven management, where decision-making is based on real-time information.

Furthermore, research by Li and Wang (2025) shows that reducing bureaucratic procedures through automated formats not only increases operational efficiency but also reduces stress among employees, creating a more sustainable work environment. This is closely related to observations in “Heronjtë e Lumës” where the complete digitization of archives and the automation of communication have created an institutional culture that is more transparent and less dependent on manual processes.

From a broader perspective, Ilawagbon and Ajisebiyawo (2024) argue that e-governance in the wake of the COVID-19 pandemic has strengthened transparency and accountability, enabling a more structured approach to public and educational management. This conclusion is also reflected in cases where institutions have moved from a fragmented system to a centralized platform, thereby reducing data inconsistencies and reporting delays.

However, as Al notes, Jnainati et al. (2025), the transition to automation requires investments not only in technology, but also in staff training and the adaptation of institutional culture. In the case of “Zambaku”, the remaining challenges in information coordination indicate the need for a clear integration strategy, where different platforms are unified into a single management system.

Overall, the findings of this study are consistent with the latest literature on automation in the public sector, confirming that its benefits are maximized only when accompanied by strategic planning, organizational support, and ongoing investments in human and technological capacities.

Based on the results of the reported findings, the answers to the research questions can be structured as follows:

Q1: How does the automation of administrative processes affect the reduction of bureaucracy in educational institutions?

The results show that automation significantly reduces the time for processing documents, approvals, and reports, eliminating many unnecessary manual procedures. In the case of “Heronjtë e Lumës”, where the system is fully integrated, bureaucracy has been minimized thanks to the standardization of procedures and immediate access to data, in line with the findings of Renna & Colonnese (2025) and Li & Wang (2025).

Q2: What are the differences in administrative efficiency between institutions with full automation and those with partial automation?

Fully automated institutions, such as “Heronjtë e Lumës”, manage to perform administrative tasks much faster and with fewer errors, enabling decision-making based on real-time data. In comparison, “Zambaku”, with partial automation, faces delays due to the use of fragmented systems and manual procedures, losing the coherence of information (Al Jnainati et al., 2025).

Q3: How does automation impact transparency and communication with stakeholders?

Automation, especially when coupled with centralized systems, increases institutional transparency and improves communication with parents and educational authorities. In “Heronjtë e Lumës”, parents receive real-time reports and notifications, improving interaction and mutual trust (Ilawagbon & Ajisebiyawo, 2024).

Q4: What are the main challenges in the transition to automation?

Key challenges include the lack of a unified system, fragmentation of existing platforms, lack of staff training, and resistance to change. As demonstrated by the case of “Zambaku,” these obstacles limit the potential benefits of automation and highlight the need for a clear integration and training strategy (Al Jnainati et al., 2025).

VI. CONCLUSIONS

This study has provided a clear overview of the impact of automation on administrative processes and the reduction of bureaucracy in educational institutions, by analyzing two contrasting cases: Primary and Lower Secondary School “Heronjtë e Lumës”, with a fully integrated system, and Preschool Institute “Zambaku”, with partial automation. The results showed that the high level of automation brings significant benefits in efficiency, transparency, and coherence of data, as well as significantly reduces the time needed to carry out administrative procedures.

In the case of “Heronjtë e Lumës”, the integration of the digital platform and the standardization of administrative procedures have enabled real-time reporting, effective communication with stakeholders, and fully electronic archiving. These benefits reflect the potential of automation to transform the way educational institutions are managed and reduce unnecessary bureaucracy.

On the other hand, the case of “Zambaku” highlights that partial automation and the lack of a unified system create delays, data inconsistencies, and an additional burden on administrative staff. This suggests that to maximize the benefits of automation, a comprehensive strategy is needed that includes unification of platforms, staff training, and institutional support for the adoption of a digital culture.

Ultimately, this research confirms that the full automation of administrative processes is not only a tool for reducing bureaucracy but also a catalyst for increasing transparency, optimizing resources, and improving the quality of educational services. However, the success of this approach is determined not only by technology, but also by the ability of institutions to invest in human capacities and to build a shared vision for digital transformation.

6.1. Recommendations

Based on the findings of this study, it is recommended that educational institutions invest in integrated management platforms to reduce data fragmentation and improve administrative efficiency. Standardizing procedures across departments is essential to ensure consistency and streamline operations. To maximize the benefits of automation, institutions should provide continuous training for staff, tailored to various levels of

digital literacy. Additionally, enhancing transparency and communication with stakeholders through real-time access to information will build trust and accountability. Successful implementation requires strong institutional support, clear digital transformation policies, and regular monitoring to ensure that automated systems remain effective and aligned with the institution's needs.

6.2. Limitations

While this study provides valuable insights into the potential of automating administrative processes to reduce bureaucracy in schools, several limitations must be acknowledged. First, the research is context-specific and may not be generalizable beyond the geographic region or educational systems included in the sample. Differences in infrastructure, technological readiness, and administrative culture across school systems may influence the applicability of the findings.

Second, the study relied primarily on self-reported data through surveys and interviews, which may be subject to response bias or social desirability effects. Participants may have overstated the effectiveness of automation or downplayed existing bureaucratic challenges.

Third, the study focused on administrative staff and school leaders, potentially excluding valuable perspectives from teachers, students, and parents, whose experiences could offer a more holistic view of how automation impacts school operations.

Fourth, the research design was cross-sectional, capturing data at a single point in time. As such, it does not account for longitudinal changes or long-term effects of automation on school bureaucracy, such as sustainability, adaptation challenges, or shifts in policy.

Finally, technical limitations such as inconsistent implementation of automation tools, varying levels of digital literacy among staff, and unequal access to technological resources may have influenced the outcomes but were not extensively explored in this study.

Future research should address these limitations by incorporating broader stakeholder perspectives, using longitudinal data, and including comparative case studies across different educational contexts.

VII. ACKNOWLEDGEMENT

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Ethics Statements

The study was approved by the institutional ethics committee. All participants were informed about the purpose of the research and provided written informed consent prior to participation. Participation was voluntary, and confidentiality of responses was ensured throughout the study.

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Conflict of Interest Statement

The authors declare that there is no conflict of interest in the conduct of this study.

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