

Digital Zone Based Student Admission at High Schools: Challenges and Strategies for Schools to Ensure Equitable Access to Education

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ABSTRACT

Objective: This study aims to analyze the implementation of the zoning system in the digital-based New Student Admission (PPDB) process at the high school (SMA) level and to examine its role in promoting equitable access to education in Indonesia.

Method: The research method used is a literature review, which examines various relevant scientific journals related to zoning policies, the digitization of PPDB, and educational equity. Data were analyzed descriptively to identify implementation patterns, challenges, and strategies applied within the system. **Results:** The results indicate that the zoning system in the digital PPDB is capable of enhancing equitable access to education and improving administrative efficiency through a faster, more transparent, and effective online registration system. However, its implementation still faces various challenges, such as disparities in school quality, manipulation of residential data, limitations in technological infrastructure, and low levels of digital literacy among the public. **Novelty:** The novelty of this study lies in the integration of analysis between the zoning system, the digitization of the PPDB, and the equitable distribution of access to education within a single comprehensive study that also offers strategic perspectives for resolving policy implementation issues.

INTRODUCTION

In this era of rapid technological advancement, the education sector must constantly adapt to changing times. Education should not only focus on the learning process within the classroom but must also provide efficient, fast, transparent, and fair administrative services to the public. Technological advancements are driving educational institutions to adopt digital systems across various school services to make educational management more effective [1].

One example of digitalization in education services is the online New Student Admission Process (PPDB). This system utilizes information technology throughout the entire process—from registration and selection to the announcement of admission results. The digital PPDB is seen as a way to make it easier for the public to access educational services and to help schools improve their managerial efficiency. Additionally, this system is part of the government's efforts to improve the quality of education in the digital age [2].

In practice, the digital student admission system is integrated with the zoning policy to ensure equitable access to education. However, the implementation of this policy still faces a number of challenges, such as inaccurate address data, varying quality standards among schools, a lack of educational facilities, and low levels of digital literacy among the public. These issues indicate that the zoning system has not yet functioned optimally in achieving fair and equitable education [3], [4].

Several previous studies have examined the implementation of the PPDB from various perspectives. Zahra Yeza Sabilla's study shows that the implementation of the zoning policy is considered quite effective in increasing public satisfaction, although technical challenges still exist. A subsequent study by Tara Mitha Rizki found that the digitization of the PPDB simplifies the registration process, but still faces barriers related to information communication. Another study by Ririn Ranimah explains that the zoning system promotes equitable access to education, but is still hindered by facilities and teacher quality. Research by Siti Khodijah indicates that the evaluation of the PPDB policy still requires improved public outreach. Meanwhile, Rizki Ananda reveals that the zoning policy has not yet fully addressed geographical and digital disparities [5], [6], [7], [8], [9].

Preliminary findings indicate that problems with the implementation of the digital student admission system (PPDB) are still occurring in the field. In 2025, the East Java Regional Office of the Ombudsman of the Republic of Indonesia received complaints from the public regarding issues with the online registration system that resulted in the loss of prospective student data in Surabaya and Banyuwangi. Additionally, errors in data entry were identified, along with allegations of address data manipulation that harmed prospective students. These circumstances indicate that the implementation of the system still requires improvements

Based on previous research, analyses of the zoning system, the digitization of student admission processes, and equitable access to education are still often discussed separately. Some studies place greater emphasis on the effectiveness of zoning policies, while others highlight aspects of the digitization of educational services or the general evaluation of policies. Furthermore, previous studies have rarely addressed comprehensive problem-solving strategies in the implementation of digital-based student admission. This situation indicates the need for further research on the integration of zoning systems, the digitization of services, and equitable access to education [5], [7], [9].

Other studies indicate that the implementation of the zoning system still faces obstacles in achieving maximum educational equity. Research by Ririn Ranimah, using a systematic literature review method, suggests that zoning policies can improve equitable access to education, but are still hindered by uneven distribution of school facilities, varying teacher quality, and public resistance to restrictions on school choice [7]. A study by Rizki Ananda also emphasizes the impact of zoning policies on equitable access to education, but the analysis remains focused on only a few aspects [9]. Additionally, a study by Nova Eliza Hotmimaida applied the CIPP evaluation model and identified that school capacity and the delineation of zoning areas remain barriers to policy implementation [10].

Based on previous research, analyses of the zoning system, the digitization of the student admission process (PPDB), and the distribution of access to education are still often discussed separately. Some studies focus solely on the effectiveness of zoning policies, while others examine the digitization of educational services or evaluate the

policies as a whole. Previous research has also been lacking in addressing comprehensive problem-solving strategies for the implementation of digital-based PPDB. The novelty of this study lies in its analysis, which integrates the zoning system, the digitization of PPDB services, equitable access to education, and strategies for addressing various implementation challenges into a single, more comprehensive study.

RESEARCH METHOD

The research method used in this article is a literature review, which involves reading, understanding, and analyzing various journals relevant to the research topic under discussion. The data sources were obtained from reputable journals that discuss similar topics, such as zoning systems and digital education service systems. Through this method, the author was able to understand the concepts, challenges, and strategies of digital education service systems, one of which is the online PPDB system.

The data collected by the author was then analyzed descriptively to identify the problems and solutions related to the online PPDB education service system. This approach aims to enable the author to clearly and systematically understand the implementation of the online PPDB system specifically the zoning pathway the obstacles encountered, and the solutions to the problems faced. This article is expected to provide a deeper understanding of the challenges and strategies schools face in implementing digital-based PPDB in this era.

RESULTS AND DISCUSSION

Results

The results of the literature review indicate that the implementation of a zoning system in the digital-based New Student Admission (PPDB) process at the high school level has a positive impact on the equitable distribution of educational access. The zoning system promotes a more even distribution of students, as admissions are based on the distance between a student's residence and the target school. This policy also reduces the number of students in certain schools that were previously considered elite schools. In this way, students' opportunities to access education become more balanced across various regions.

In addition to facilitating educational equity, the digitization of the PPDB process also streamlines administrative procedures. Online registration enables the registration, selection, and announcement of results to occur more quickly, effectively, and transparently. The public can access enrollment information more easily, while schools can improve the efficiency of administrative services through digital systems. This indicates that the use of technology is a crucial element in modernizing educational services. This is further supported by research showing that the online PPDB system enhances the effectiveness, efficiency, and transparency of the new student admission process [11], [12].

However, this study also identified a number of challenges in implementing the digital zoning-based student admission process. One of the main issues is the continuing

disparity in quality among schools, in terms of facilities, infrastructure, and the quality of teaching staff. This situation leads some members of the public to still believe that some schools are better than others, meaning that the goal of educational equity has not yet been fully achieved [13].

Another challenge that has emerged is the manipulation of residential address data by some parents to ensure their children are accepted into specific schools. In addition, the implementation of the digital student admission process still faces challenges such as limited technological infrastructure, issues with the online registration system, and the public's low level of digital literacy regarding the registration procedures. These issues indicate that the implementation of the policy still requires more intensive oversight and better technological support.

Based on various findings, this study reveals that the success of implementing a digital-based zoned student admission system depends not only on the student admission system itself, but also requires equitable distribution of educational quality, improvements in technological infrastructure, strengthened oversight, and ongoing public education so that the goal of equitable access to education can be fully achieved.

Discussion

The results of this study indicate that the zoning system in the digital student admission process has a positive impact on the equitable distribution of access to education. These findings are consistent with a study conducted by Amma Fathuurrahman and Hatta M. Saleh, which explains that zoning policies create fairer opportunities for students to access education at their nearest schools [14]. Research by Nurhidayah Lakoro also shows that the zoning system can reduce the disparity in student numbers between schools previously considered elite and those that were not [13]. The implementation of this zoning system plays a crucial role in granting students the right and opportunity to enjoy the same quality of education without discrimination, thereby creating an equitable distribution of education [11].

This study also found that digitization in the student admission process simplifies educational administrative procedures. Online registration is considered more efficient, faster, and clearer. This finding aligns with a study by Dinda Amanda Saqira, which noted that digital systems can improve the effectiveness of school administrative services and make it easier for the public to access registration information [15]. Nevertheless, the effectiveness of digitization continues to be influenced by the readiness of the technological infrastructure in each region.

On the other hand, this study reveals that the implementation of the zoning system still faces a number of challenges, such as disparities in school quality, discrepancies in residential data, and low levels of digital literacy among the public. These findings align with Ian Ardianto's research, which states that variations in the quality of facilities and teachers across schools remain a factor driving public perceptions of elite schools [12]. Additionally, a study by Amma Fathuurrahman and Hatta M. Saleh from the university also identified the practice of manipulating residential addresses as a form of abuse of the zoning policy [14].

Barriers to the implementation of digital systems are also a key focus of this study. Uneven internet access and the public's limited skills in utilizing technology indicate that the digital transformation in education has not yet been fully successful [16]. This finding reinforces the results of a study by Dinda Amanda Saqira, which revealed that the success of educational digitization requires adequate technological readiness and human resources [15].

Although various studies indicate that zoning systems can promote equitable access to education, the findings of this study suggest that their implementation still faces more complex challenges in the digital age, particularly regarding disparities in technological infrastructure and digital literacy among the public. These findings suggest that discussions regarding zoning systems should not focus solely on the equitable distribution of students but must also take into account technological readiness in their implementation [13]. Future research could focus on evaluating the effectiveness of the digital PPDB platform, developing a more accurate data verification system, and strategies for ensuring equitable internet access across various regions. These efforts are essential to ensure that the digital PPDB process operates more effectively, transparently, and adaptively to meet future educational needs.

CONCLUSION

Fundamental Finding : This study shows that the implementation of a zoning system in the digital-based New Student Admission (PPDB) process at the high school level plays a crucial role in promoting equitable access to education. The system provides more equitable opportunities for students to gain access to education at their nearest schools and improves the efficiency of administrative services through a faster and more transparent registration process. However, its implementation still faces various challenges, such as disparities in school quality, manipulation of residential data, limitations in technological infrastructure, and low levels of digital literacy among the public. These findings underscore that the success of digital PPDB policies depends not only on the student admission system but also on equitable educational quality and adequate technological readiness. **Implication :** The implications of this study indicate that the government and educational institutions need to conduct continuous policy evaluations to ensure that the implementation of PPDB becomes fairer, more transparent, and more effective. These efforts can be achieved through the equitable improvement of school quality, the strengthening of student data verification systems, and the expansion of access to educational technology across various regions. **Limitation :** This study has limitations because it relies solely on a literature review; thus, it does not directly describe field conditions through observation or interviews with relevant parties. Consequently, the findings of this study are limited to an analysis of available literature sources. **Future Research :** Future research is expected to employ field research methods, such as interviews, observations, or case studies at specific schools, to gain a deeper understanding of the implementation of the digital-based zoned student admission system. Additionally, future studies could also examine the effectiveness of the digital

student admission system across various regions to inform educational policies that are more adaptable to future technological advancements.

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