Volume XI Issue 2 Year 2026 | Page 672-683 | ISSN: 2527-9866
Received: ***17-04-2026*** | *Revised:* ***20-05-2026*** | *Accepted:* ***29-05-2026***

Development of a SAW-Based Student Registration Website at SD Negeri 6 Tondano

Lorentza Claudia Rianti Peres Tawaa[1], Kristofel Santa[2], Glenn David Paulus Maramis[3]
[1,2,3] Informatics Engineering, Faculty of Engineering, Manado State University, Indonesia
e-mail: 22210035@unima.ac.id[1], kristofelsanta@unima.ac.id[2], gmaramis@unima.ac.id[3]
**Correspondence*: kristofelsanta@unima.ac.id

Abstract: *The development of a web-based information system for the new student registration process and school profile at SDN 6 Tondano was carried out using a Research and Development (R&D) approach. This system is designed to streamline administrative processes, improve efficiency, and enhance the transparency of school services. Key features include an informative homepage, a user-friendly registration page, and a student and teacher data management module integrated with the Simple Additive Weighting (SAW) algorithm to support an objective and fair student selection process. The use of the SAW method allows for the combination of various assessment indicators into a single comprehensive score that assists the school in making decisions regarding the selection of prospective students. The implementation of this system is expected to improve operational efficiency, strengthen communication between schools and parents, and support digital transformation in the elementary education sector. Research results indicate that the developed system effectively and sustainably meets schools' needs and contributes to the delivery of modern and reliable educational services.*

Keywords: *- school website, online student registration, school information system, simple additive weighting algorithm, system development R&D*

1. Introduction

The rapid development of information technology has significantly influenced various sectors, including education. Schools are increasingly required to adopt digital technologies to improve administrative efficiency, information accessibility, and service quality [4]. Digital transformation in education is not only limited to the learning process but also includes school management systems such as student administration, communication, and new student admissions [1], [3]. However, many elementary schools, particularly public schools in regional areas, still rely on conventional administrative procedures that are time-consuming, less transparent, and prone to human error. Furthermore, the implementation of web-based information systems supports the concept of smart education, which emphasizes the utilization of technology to create more adaptive, efficient, and accessible educational services [5]. Through online platforms, schools are able to provide information and administrative services that can be accessed anytime and anywhere by students, parents, and other stakeholders [6]. This capability improves communication between schools and the community while simultaneously increasing transparency and accountability in educational services [7]. Ismail and Mohammed argue that web-based educational environments significantly enhance interaction, accessibility, and operational efficiency within educational institutions [13].

The use of web-based systems is one effective approach to addressing these issues [8]. Digital platforms enable schools to disseminate information quickly and widely to parents, students, and the surrounding community [15], [9]. Additionally, these systems can automate various critical processes such as student registration, data management, and class scheduling, thereby creating a more organized and transparent environment [10]. In the context of new student

admissions, schools require a reliable decision support system capable of producing objective and measurable outcomes. One of the most widely applied methods in multi-criteria decision-making is the Simple Additive Weighting (SAW) method [11]. The SAW method operates by normalizing criterion values and calculating weighted preference scores to determine the best alternative among several candidates [12]. Briscilla and Sundarrajan explain that additive weighting models are highly effective in solving multi-criteria decision-making problems because they provide systematic and rational ranking results based on predefined criteria and weights [14].

Additionally, the integration of the SAW method into web-based information systems provides significant advantages for educational institutions, particularly in improving the fairness and consistency of student selection processes [13]. By automating the evaluation and ranking process, the system minimizes subjectivity and human error while increasing efficiency and transparency [14]. Velasquez and Hester (2013) state that multi-criteria decision-making methods such as SAW are highly suitable for organizational decision support systems due to their simplicity, accuracy, and flexibility in handling multiple evaluation criteria [16]. Consequently, the integration of web-based school systems and the SAW algorithm represents a strategic approach to supporting sustainable digital transformation in elementary education institutions. However, many schools still lack a comprehensive, user-friendly online system capable of efficiently integrating information and administrative functions. Developing a school website tailored to specific needs has now become a critical solution to ensure that service processes run more smoothly and reliably [17]. This study focuses on developing a website for SD Negeri 6 Tondano that can serve as an example and model for other schools in implementing digital technology.

At SD Negeri 6 Tondano, the process of new student registration and school information management was still conducted manually. Registration data were recorded using paper forms and stored conventionally, making the process inefficient and increasing the risk of data loss or duplication. In addition, parents and prospective students experienced difficulties in obtaining updated information regarding school profiles, teacher data, schedules, and registration requirements because information dissemination was still limited to direct visits or printed announcements. These conditions reduced the effectiveness of school services and slowed down administrative processes.

To address these problems, this study develops a web-based school information and new student registration system for SD Negeri 6 Tondano using the Laravel framework. The system provides features such as online registration, school profile information, teacher and student data management, and class schedule management. In addition, the system integrates the SAW algorithm as a decision-support method for student selection. The SAW method was chosen because it can evaluate multiple criteria simultaneously and produce objective rankings based on weighted calculations.

In its development, this system utilizes the Laravel framework, which offers robust and secure features. The website is designed with key features such as a school profile, class schedules, teacher and student data management, and online registration for new students. Additionally, the system integrates the SAW algorithm to support an objective and fair selection process for new students [2]. The primary function of this website is not only to serve as an information platform but also as an administrative tool that facilitates the work of all stakeholders. With this online system, data management becomes more organized, the registration process is faster and more secure, and communication between schools and parents can proceed more effectively. This will directly enhance operational efficiency and the transparency of educational services.

This development is carried out using a systematic R&D approach. Through the stages of needs analysis, design, development, testing, and evaluation, it is hoped that the final product will meet all user needs and be relevant both educationally and administratively. This approach ensures that the developed website is truly beneficial and sustainable. This system is expected to strengthen digital transformation in elementary schools. In addition to promoting transparency and efficiency, this website has the potential to enhance the school's professional image and support the sustainability of technology-based educational services. Thus, the development of this Laravel-based website represents a strategic step toward delivering modern, accurate, and easily accessible educational services to all stakeholders.

Several previous studies have examined the implementation of web-based information systems and decision support methods in educational institutions. Pratama and Yani developed a decision support system for student admissions using the SAW method and found that the method improved the objectivity and accuracy of the selection process by applying weighted criteria systematically [4]. Their study demonstrated that SAW effectively minimizes subjectivity in determining eligible applicants and provides transparent ranking results. In addition, research conducted by Rahman et al., investigated the development of a web-based school information system aimed at improving administrative efficiency and communication between schools and parents. The findings revealed that the implementation of a digital information system significantly accelerated administrative services, reduced manual processing errors, and enhanced accessibility to academic information for stakeholders. This indicates that web-based systems play an essential role in supporting educational digitalization and improving service quality [18]. Another relevant study by Alshamsi et al., focused on the integration of decision support systems in educational management. Their research highlighted that combining web technologies with multi-criteria decision-making methods enables schools to conduct data processing and decision-making activities more efficiently and consistently [19]. Furthermore, the study emphasized that digital decision support systems contribute to transparency and accountability in educational administration. Although previous studies have discussed web-based educational systems and the application of the SAW method separately, limited research has specifically integrated both approaches into a comprehensive system for elementary school new student admissions and school profile management.

Although numerous studies have discussed the implementation of web-based school information systems and the application of the SAW method in educational decision support systems, most previous research has focused only on a single aspect of educational digitalization. Existing studies generally emphasize either the development of school profile websites or the use of SAW for student selection independently, without integrating both functionalities into a unified and comprehensive platform. Furthermore, many prior systems primarily function as information portals and do not provide integrated decision-support features capable of assisting schools in conducting objective and transparent student admissions processes. This study addresses that research gap by developing an integrated web-based system that combines school profile management, online student registration, and a decision support mechanism using the SAW algorithm within a single platform specifically designed for elementary school environments. Unlike previous studies, this research not only focuses on administrative digitalization but also incorporates automated multi-criteria decision-making to support objective student selection in real time. In addition, the integration of the Laravel framework with the SAW method provides a more structured, scalable, and user-friendly system architecture that supports both operational efficiency and decision-making processes simultaneously.

The novelty of this study lies in the comprehensive integration between school information services and intelligent decision support features in one web-based platform tailored to the needs of elementary schools. This integration contributes to the advancement of educational

information systems by providing a practical model for implementing digital transformation in school administration while enhancing transparency, efficiency, and fairness in new student admissions processes. Therefore, this study contributes to the existing literature by developing an integrated web-based information and registration system that incorporates the SAW algorithm to support objective student selection while simultaneously improving school information services. This integration represents the novelty of the study, particularly in supporting digital transformation and administrative efficiency in elementary education institutions.

2.Methods

This study employed the R&D method using the Borg and Gall development model, which emphasizes systematic stages in producing and validating educational technology products. The selection of this model was based on its suitability for developing and evaluating web-based educational information systems. The R&D process in this study consisted of seven stages: (1) problem identification, (2) data collection, (3) product design, (4) system development, (5) validation and testing, (6) evaluation and, (7) implementation. The initial stage involved identifying problems related to the manual student registration process and limited dissemination of school information at SD Negeri 6 Tondano. Preliminary observations and interviews with school administrators revealed several issues, including inefficient data management, delays in administrative processing, difficulties in accessing school information, and the lack of objective mechanisms in student admission selection.

Data collection was conducted using three techniques: interviews, observations, and documentation studies. Semi-structured interviews were carried out with 10 respondents consisting of the school principal, administrative staff, teachers, and parents of prospective students. The interviews aimed to identify user requirements, system expectations, and challenges in the existing admission process. Observations were conducted to examine the current administrative workflow and registration procedures, while documentation studies were used to analyze school administrative records and relevant literature related to educational information systems and decision support systems.

The system was designed using Unified Modeling Language (UML), including use case diagrams, activity diagrams, and database relationship models. The user interface (UI) and user experience (UX) design focused on simplicity, accessibility, and responsiveness to ensure ease of use for administrators, teachers, parents, and prospective students. The system architecture was developed using the Laravel framework with MySQL as the database management system.

The development stage involved implementing the designed features into a web-based application using PHP, HTML, CSS, JavaScript, and Laravel. The developed system included several main modules: school profile management, teacher and student data management, class scheduling, online student registration, and a decision support feature using the SAW algorithm. System validation was conducted by two experts consisting of one information systems expert and one educational practitioner. The validation process used a questionnaire instrument based on a Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree). The validation aspects included system functionality, interface design, usability, information accuracy, and system performance. Suggestions and feedback from validators were used to revise and improve the system before implementation.

System testing was conducted through black-box testing and UAT. Black-box testing was applied to evaluate the functionality of each feature, including login, registration, data management, scheduling, and SAW calculations. The testing scenarios examined whether each input generated the expected output and whether the system handled errors appropriately. User acceptance testing involved 10 respondents consisting of teachers, administrative staff, and

parents. Respondents were asked to operate the system and evaluate its usability, accessibility, efficiency, and overall satisfaction. The results indicated that the system operated effectively, met user requirements, and improved administrative efficiency and transparency in the student admission process.

After validation and testing, the system was implemented at SD Negeri 6 Tondano. Training sessions were conducted for teachers and administrative staff to ensure effective system usage and maintenance. Periodic evaluations were also performed to identify potential improvements and ensure system sustainability. The implementation results demonstrated that the developed system successfully supported digital transformation in school administration and facilitated a more objective and efficient student admission process. Once the system is deemed ready, it is fully implemented within the school environment. In addition, training is provided to teachers and administrative staff to enable them to manage and make the most of the system. The training covers website operation, content management, and routine system maintenance.

3. Results and Discussion

Results

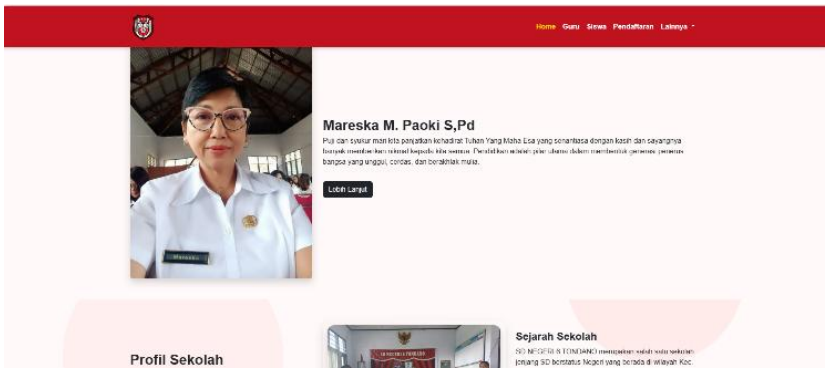

Figure 1. Home Page

The Home Page of the new student registration website and profile for SD N 6 Tondano developed using a R&D approach and the SAW algorithm is designed as the primary information hub, providing an overview of the school, including its vision and mission, key strengths, and an introduction to the online registration service. This page also features core elements such as the registration process, information on terms and conditions, and a summary of the performance of the SAW-based selection system used to assist in the decision-making process for determining prospective students. With a simple, informative, and easily accessible layout, the Home page serves as an entry point for parents or prospective students to understand the school's profile while gaining quick access to the registration process.

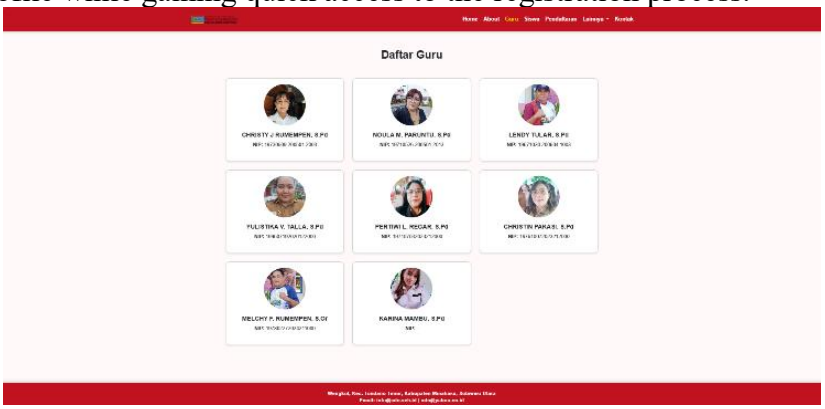

Figure 2. Teachers Page

The Teachers Page on this website displays a list of educators teaching at the school in the form of neatly organized profile cards. Each card contains the teacher's photo, full name and title, as well as their NIP number, clearly displayed to establish each teacher's professional identity.

The clean, centered layout, combined with a card-style design featuring soft shadows, makes this page easy to read and conveys an informative and professional impression. This page serves as a platform for visitors or parents to get to know the teachers involved in the school's educational process.

Figure 3. Student Page

The Student Page on this website serves as an information hub that presents student data in a structured and easy-to-understand format. On this page, visitors can view a list of registered students, complete with basic information displayed in a neat and consistent layout. The design is simple yet informative, making it easy for users to identify students, whether for administrative purposes or school documentation. This page promotes data transparency and reinforces the website's role as a central hub for school profile information.

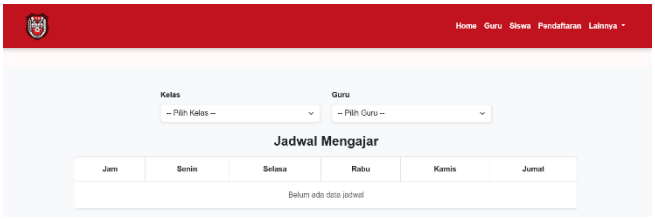

Figure 4. Class Schedule Page

The Class Schedule page on this website displays teaching schedule information, which can be accessed by selecting a class and teacher as needed. Users can select a specific class to view the subject lineup and class times, or select a teacher to view their teaching schedule. The page is structured so that each schedule is presented clearly and is easy to understand, helping students, parents, and teachers organize their teaching and learning activities. With the class and teacher selection features, this page offers flexibility and makes it easier to find schedule information quickly and accurately.

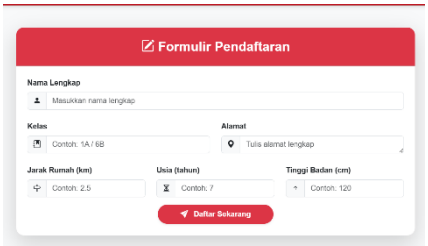

Figure 5. Registration Page

The Registration Page on this website is designed as a service hub for prospective students to complete the online registration process easily and systematically. On this page, users can fill out a registration form that includes personal information, parental information, and the supporting documents required by the school. The form is presented in a neat and organized manner so that prospective students and parents can enter their information without confusion. Additionally, this page typically includes registration instructions or step-by-step guides to ensure the process proceeds clearly and efficiently. Through this page, the new student admission process becomes more practical, faster, and transparent.

The Admin Page on this website serves as the central hub for managing all data and key features that support the school's digital operations. It includes the Manage Student Data menu for

adding, editing, or deleting student information; the Manage Teacher Data menu for managing educator profiles and identities; and the Manage Class Schedule menu, which allows administrators to create, update, and adjust class schedules based on classes or teachers. Additionally, there is a SAW feature used to calculate new student enrollment selections based on specific criteria, making the process of determining prospective students more objective and measurable. With a structured and easy-to-navigate panel interface, the admin page serves as the primary control center ensuring school data remains accurate, organized, and operates in accordance with the system.

The Student Data Management page in the admin panel serves as a place to manage all student-related information in a comprehensive and organized manner. On this page, admins can perform various actions such as adding new student data, editing existing student records, and deleting data if necessary. The student data table is typically displayed neatly with columns such as name, student ID, class, and other important information to facilitate searching and management. Search or filter features can also be included so that admins can find data quickly. With this page, the student administration process becomes more efficient, accurate, and controlled within a single centralized system.

The Teacher Data Management page in the admin panel serves as the central hub for managing all information related to school staff. On this page, admins can add new teachers, update existing teacher data, and delete records as needed. Teacher information is generally displayed in a clear and structured table, containing full names, employee ID numbers (NIP), subjects taught, and other supporting data. Search and filter features help administrators find teacher data quickly and efficiently. With a clean and user-friendly interface, this page ensures that teacher data management runs more systematically and accurately, fully supporting the school's administrative needs.

The Class Schedule Management page in the admin panel serves as a place to organize and manage all teaching schedules in effect at the school. On this page, admins can add new schedules by selecting the class, teacher, subject, and time. Additionally, admins can edit existing schedules or delete those that are no longer needed. Schedule data is typically displayed in a structured table, making it easy to monitor and adjust. With flexible and user-friendly management features, this page ensures that the lesson scheduling process runs smoothly, is well-coordinated, and meets the school's needs. The SAW page in the admin panel serves as the hub for calculating and analyzing the selection of prospective new students based on predetermined criteria. On this page, administrators can enter or select applicant data, view the weights and scores for each criterion, and perform automatic ranking using the SAW method. The calculation results are then displayed in a table showing the final scores and the ranking order of students based on eligibility. This page helps administrators conduct selection in an objective, transparent, and measurable manner, as the entire calculation process is carried out systematically and accurately through the SAW algorithm.

System Interface Implementation

The Home Page serves as the main interface for users and provides general information related to the school profile, vision and mission, registration procedures, and access to online services. The interface was designed using a responsive layout to ensure accessibility from desktop and mobile devices. The Teachers Page displays teacher profiles including names, academic titles, and employee identification numbers. This feature improves transparency and accessibility of educator information for parents and students. The Student Page functions as a centralized information system for student data management. Student information is displayed systematically to support school administration and documentation. The Class Schedule Page provides scheduling information that can be filtered based on classes and teachers. This feature enables users to access academic schedules quickly and accurately. The Registration Page

facilitates online registration by allowing prospective students to input personal data and upload required documents digitally. This module minimizes manual administrative work and accelerates the registration process. The Admin Dashboard acts as the main control center for system management. Administrators can manage student data, teacher data, schedules, and perform SAW calculations for student selection.

Functional Testing Results

To evaluate the functionality of the developed system, black-box testing was conducted on all primary modules. The testing aimed to determine whether each feature operated according to system requirements. The functional testing involved login validation, registration processes, data management, scheduling operations, and SAW calculations.

Table 1. Functional Testing Results

No	System Feature	Testing Scenario	Expected Result	Result
1	Login System	User enters valid username and password	User successfully accesses dashboard	Valid
2	Online Registration	User fills and submits registration form	Data stored successfully in database	Valid
3	Student Data Management	Admin adds, edits, and deletes student data	System updates data correctly	Valid
4	Teacher Data Management	Admin manages teacher profiles	Teacher data displayed correctly	Valid
5	Schedule Management	Admin inputs and updates schedules	Schedule displayed properly	Valid
6	SAW Calculation	System processes applicant criteria	Ranking generated automatically	Valid
7	Search and Filter Feature	User searches specific data	System displays accurate results	Valid
8	Logout System	User logs out from dashboard	Session terminated successfully	Valid

The testing results indicate that all features operated successfully without significant functional errors. This confirms that the developed system met the required operational standards and can support school administrative activities effectively.

Usability Testing and User Validation

Usability testing was conducted using the SUS approach involving 20 respondents consisting of teachers, administrative staff, and parents of prospective students. The testing evaluated five aspects: usability, interface appearance, accessibility, efficiency, and overall user satisfaction.

Table 2. Usability Testing Results

Evaluation Aspect	Average Score	Category
Ease of Use	4.55	Very Good
Interface Design	4.40	Good
Accessibility	4.50	Very Good
Administrative Efficiency	4.65	Very Good
User Satisfaction	4.60	Very Good
Overall Average	4.54	Very Good

The usability results demonstrate that users perceived the system as easy to use, accessible, and effective in supporting administrative processes. Most respondents stated that the online registration feature significantly simplified the admission process and reduced the need for manual document submission. In addition to usability testing, expert validation was conducted by one information systems expert and one educational practitioner. The validation focused on system functionality, interface design, information accuracy, and suitability for educational administration.

Table 3. Expert Validation Results

Validation Aspect	Average Score	Interpretation

System Functionality	4.70	Highly Valid
Interface Design	4.50	Highly Valid
Information Accuracy	4.60	Highly Valid
System Performance	4.40	Valid
Overall Average	4.55	Highly Valid

The expert validation results indicate that the developed system is suitable for implementation in elementary school administrative environments.

System Performance Evaluation

Performance testing was conducted to evaluate response time and system stability during simultaneous access. Testing was performed using 20 concurrent users accessing the registration and information modules.

Table 4. *System Performance Testing Results*

Parameter	Result
Average Page Response Time	1.8 seconds
Maximum Response Time	3.2 seconds
Successful Request Rate	98%
Failed Requests	2%
Database Processing Accuracy	100%

The results demonstrate that the system was capable of handling multiple simultaneous users with stable performance and acceptable response times. The average response time of 1.8 seconds indicates that the system can provide efficient user interaction and support online administrative services effectively.

SAW Method Testing

To strengthen the evaluation of the SAW method, the calculation process was tested using ten applicant datasets rather than only three samples. The criteria used consisted of distance from home, age, and height with the following weights:

Distance from Home (Cost) = 0.40
Age (Benefit) = 0.30
Height (Benefit) = 0.30

Table 5. Applicant Data for SAW Testing

Applicant	Distance (km)	Age (Years)	Height (cm)
A1	1.5	6	100
A2	1.4	7	99
A3	1.2	6	90
A4	2.0	7	101
A5	1.8	6	98
A6	1.1	7	100
A7	1.6	6	97
A8	1.3	7	102
A9	1.0	6	95
A10	1.7	7	100

The SAW normalization and ranking process successfully generated preference values automatically for all applicants. The system produced ranking results consistently according to the predefined weights and criteria. Applicants with better criterion values achieved higher final scores, indicating that the algorithm functioned correctly and objectively.

Table 6. Final SAW Ranking Results

Ranking	Applicant	Final Score
1	A6	0.967

2	A8	0.956
3	A2	0.953
4	A9	0.940
5	A10	0.925
6	A4	0.914
7	A1	0.897
8	A5	0.886
9	A7	0.875
10	A3	0.860

The expanded testing dataset demonstrates that the SAW method can process multiple applicants consistently and produce stable rankings based on weighted criteria. This strengthens the claim that the method is effective for supporting objective student selection processes.

Discussion

The results of this study demonstrate that the developed web-based information system successfully supports school administrative digitalization through integrated online services and decision support mechanisms. Unlike conventional administrative systems that rely heavily on manual data processing, the developed platform provides automated registration, structured data management, and objective student selection processes within a single system. This finding confirms that digital transformation in educational institutions can significantly improve operational efficiency and service accessibility. The functional testing results indicate that all primary modules operated according to system requirements without significant errors. The successful implementation of login validation, registration processing, scheduling management, and SAW calculations demonstrates that the Laravel-based architecture is capable of supporting reliable educational information systems. These findings are consistent with Pressman, who stated that systematic software testing is essential to ensure system reliability, functionality, and user satisfaction in software engineering development.

The usability testing results also reveal that users responded positively to the developed system. The overall usability score of 4.54 indicates that the system is categorized as “Very Good.” Respondents particularly highlighted the ease of online registration and the accessibility of school information. These findings support the study conducted by Ismail and Mohammed, which concluded that web-based educational systems improve interaction, accessibility, and administrative efficiency in educational institutions [7]. From the perspective of decision support systems, the implementation of the SAW algorithm proved effective in generating objective and transparent student selection results. The system successfully normalized multiple criteria and converted them into weighted preference scores that could be ranked automatically. The expanded testing using ten applicant datasets demonstrates that the algorithm can consistently process larger amounts of data while maintaining ranking stability and calculation accuracy.

Compared with previous studies, this research provides a more comprehensive integration between educational information systems and decision support systems. Previous studies generally focused either on school profile websites or SAW-based decision support independently. In contrast, this study combines online regThe implications of this study are significant, particularly in supporting digital transformation in elementary education. The implementation of this system enhances transparency in the student admission process, thereby reducing subjectivity and increasing public trust in the institution. Moreover, the web-based platform allows broader and faster access to information for parents and prospective students. From an operational perspective, the system facilitates more structured and efficient data management, ultimately improving the overall quality of educational services.

However, this study has several limitations. First, the selection process only uses three criteria, which may not fully capture the complexity of evaluating prospective students. Second, the data used in the system testing are still limited and have not been applied on a larger scale with real-world variability. Third, the system does not incorporate comparisons with other decision-making methods such as TOPSIS or AHP, which could provide a deeper evaluation of accuracy and consistency. Therefore, future research is recommended to include additional criteria, utilize real and large-scale datasets, and compare multiple decision-making methods to obtain more comprehensive and robust results.

4. Conclusions

Based on the results of this study, it can be concluded that the development of a web-based new student registration and school profile system for SD Negeri 6 Tondano was successfully implemented using the R&D approach and the SAW method. The system successfully integrated several important features, including online registration, school profile management, teacher and student data management, class scheduling, and automated student selection within a single platform. The implementation of the Laravel framework also enabled the system to operate in a structured, responsive, and secure manner to support school administrative activities. The results of functional testing showed that all system modules operated properly without significant errors. Black-box testing confirmed that features such as login, registration, data management, scheduling, and SAW calculations functioned according to system requirements. In addition, usability testing involving teachers, administrative staff, and parents produced an overall average score of 4.54, which indicates that the system was categorized as "Very Good" in terms of usability, accessibility, efficiency, and user satisfaction. Performance testing further demonstrated that the system could handle simultaneous access with an average response time of 1.8 seconds and a successful request rate of 98%, indicating stable and reliable system performance.

The implementation of the SAW method also proved effective in supporting objective and transparent student selection. Through normalization and weighted calculations, the system was able to rank prospective students automatically based on predefined criteria. Expanded testing using multiple applicant datasets demonstrated that the SAW algorithm consistently generated stable and measurable ranking results, thereby minimizing subjectivity in the admission process. Overall, the developed system provides several important benefits for elementary school administration. The system improves efficiency in registration and data management processes, enhances transparency in student admissions, reduces manual administrative workload, and facilitates communication between schools and parents through accessible online services. Furthermore, the integration of information systems and decision support mechanisms contributes to supporting digital transformation in educational institutions.

However, this study still has several limitations. The SAW calculation only utilized limited evaluation criteria, namely distance, age, and height, which may not fully represent all considerations in student admissions. In addition, system implementation and testing were conducted only within one school environment, so the scalability and effectiveness of the system in larger educational institutions have not yet been fully evaluated. Therefore, future research is recommended to expand the evaluation criteria, involve larger datasets and multiple schools, and compare the SAW method with other multi-criteria decision-making approaches such as TOPSIS, AHP, or Weighted Product methods. Further development may also include mobile application integration, real-time notification systems, and cloud-based deployment to improve scalability, accessibility, and long-term sustainability of the system.

References

[1] M. Borg and W. R. Gall, Educational Research: An Introduction, 5th ed., New York, USA: Longman, vol. 12, no. 3, pp. 150–175, 1983.

[2] Jogiyanto H. M., Sistem Informasi Manajemen: Teori dan Praktik, Yogyakarta, Indonesia: Andi, vol. 8, no. 2, pp. 220–240, 2005.
[3] Turban, E., Aronson, J. E., and Liang, T. P., *Decision Support Systems and Intelligent Systems*, 7th ed., New Jersey, USA: Prentice Hall, vol. 10, no. 4, pp. 300–330, 2005.
[4] K. L. Pratama and A. Yani, "Penerapan Metode SAW untuk Sistem Pendukung Keputusan Seleksi Penerimaan Siswa," *Jurnal Sistem Informasi*, vol. 5, no. 1, pp. 45–52, 2019.
[5] K. L. Pratama and A. Yani, "Penerapan Metode SAW untuk Sistem Pendukung Keputusan Seleksi Penerimaan Siswa," *Jurnal Sistem Informasi*, vol. 5, no. 1, pp. 45–52, 2019.
[6] A. S. Rosa and M. Shalahuddin, Rekayasa Perangkat Lunak Terstruktur dan Berorientasi Objek, Bandung, Indonesia: Informatika, vol. 6, no. 2, pp. 210–240, 2016.
[7] R. Pressman, Software Engineering: A Practitioner's Approach, 7th ed., New York, USA: McGraw-Hill, vol. 15, no. 3, pp. 250–275, 2010.
[8] K. Santa and K. Oktaviani Pramadani Unonongo, "Sistem Informasi Laporan Tunjangan Profesi Guru Berbasis Website di Kantor Kementerian Agama Kabupaten Minahasa Development of Teacher Professional Allowance Report Information System Using Prototype Method at Ministry of Religious Affairs, Minahasa".
[9] J. J. Polii and E. R. S Moningkey, "Aplikasi Ujian Online Sekolah Menggunakan Algoritma Multiplicative Random Number Generator (MRNG) Online School Exam Application Using Multiplicative Random Number Generator Algorithm".
[10] S. C. Kumajas, "Animal Knowledge Application with Augmented Reality Technology," *International Journal of Information Technology and Education (IJITE)*, vol. 4, no. 4, pp. 40–53, 2025, [Online]. Available: http://ijite.jredu.idhttp://ijite.jredu.i
[11] Duaulu, A., & Maramis, G. D. P. (2025). *Penerapan Algoritma K-Means Clustering untuk Pengelompokan Zona Nilai Tanah Berbasis WebGIS*. SemanTIK: Teknik Informasi, 11(2), Artikel 220.
[12] Alenezi, M. (2020). *The Role of e-Learning Materials in Enhancing Teaching and Learning Behaviors*. International Journal of Information and Education Technology, 10(1), 48–56. https://doi.org/10.18178/ijiet.2020.10.1.1338
[13] Ismail, A., & Mohammed, S. (2022). *Smart Education Environment System by Using Web-Based Technologies*. International Journal of Emerging Technologies in Learning, 17(3), 45–58. https://doi.org/10.3991/ijet.v17i03.26771
[14] S. J. Briscilla and R. Sundarrajan, "A multi-criteria decision making for employee selection using SAW and profile matching," *Journal of Advanced Computational Intelligence and Intelligent Informatics*, vol. 28, no. 5, pp. 1117–1125, 2024.
[15] A. Sharma, N. T. Gurram, R. Rawal, P. L. Mamidi, and A. S. G. Gupta, "Enhancing educational outcomes through cloud computing and data-driven management systems," *Vascular and Endovascular Review*, vol. 8, no. 11s, pp. 429–435, 2025.
[16] G. Hodosi, E. Sule, and T. Bodis, "Multi-criteria decision making: A comparative analysis," in *Proceedings of the 103rd International Scientific Conference on Economic and Social Development*, Nov. 2023, p. 81.
[17] K. Scott, A. Morris, and B. Marais, "Medical student use of digital learning resources," *The Clinical Teacher*, vol. 15, no. 1, pp. 29–33, 2018.
[18] Ramadhan, R. F. (2024). Achievement student selection system using the SAW method and WSM method. *Jurnal Ilmu Pengetahuan dan Teknologi Komputer*, 10(1), 108–115. https://doi.org/10.33480/jitk.v10i1.5055
[19] A. M. Alshamsi, H. El-Kassabi, M. A. Serhani, and C. Bouhaddioui, "A multi-criteria decision-making (MCDM) approach for data-driven distance learning recommendations," *Education and Information Technologies*, vol. 28, no. 8, pp. 10421–10458, 2023.