

SRSYS: A Web-Based Solution for Efficient School Record Management

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Abstract

SRSys is a web-based school record management system designed to modernize administrative processes at Gani L. Abpi College Incorporated. By automating record management, the system enhances efficiency, accuracy, and reliability, addressing the common issues of manual systems, such as data retrieval delays and human errors. The study employed a quasi-experimental research design, comparing the manual system with SRSys through observational studies involving 15 respondents. These participants—registrars, program heads, faculty members, and students—provided valuable insights into the

system's usability and effectiveness. Findings show that SRSys significantly improves the speed and accuracy of record management while earning high user satisfaction ratings for its ease of use. Its integration into school operations reduces workload, streamlines data management, and supports better decision-making, highlighting the importance of digital transformation in educational administration. By modernizing traditional methods, SRSys improves productivity and service quality, making it a valuable tool for academic institutions.

Keywords: information technology, Web-Based, Record Management

Introduction

The advancement of technology has revolutionized the education sector, not only in teaching and learning but also in administrative operations. One significant development is the introduction of computerized student record management systems (SRMS), which streamline the process of storing, retrieving, and maintaining essential academic records.

Records management is a crucial aspect of educational administration, ensuring proper documentation, security, and accessibility of student information. A School Record Management System (SRMS) automates key processes such as registration, sectioning, and grade generation, reducing workload and eliminating inefficiencies associated with manual systems. Research has shown that technology-driven platforms enhance learning engagement by fostering interaction between educators and students (Samat et al., 2020).



Despite the benefits, some institutions continue to rely on paper-based systems, leading to challenges in efficiency, scalability, and accuracy (Smith, 2020). To address these issues, the development of SRSys, a Web-Based School Record Management System, was initiated. SRSys is designed to modernize student records management, ensuring seamless data processing and retrieval while minimizing human errors. By transitioning to an automated system, educational institutions can significantly enhance administrative productivity, service quality, and decision-making.

Objective of the Study

The study aims to develop and evaluate SRSys, a web-based school record management system, by assessing its perceived usefulness (PU) and ease of use (PEU). It compares the accuracy and speed of record management between the manual and web-based methods while analyzing statistical differences in both aspects. Ultimately, the research seeks to determine the effectiveness of SRSys in enhancing administrative efficiency and reliability.

Methods

The study employed observational and quasi-experimental methods to assess the efficiency of school records management. Observational studies evaluated manual recording practices, while the quasi-experimental approach established cause-and-effect relationships between manual and web-based methods.

Fifteen respondents from the registrar's office, program heads, faculty, and students participated, performing tasks using both systems to compare accuracy and speed. Data collection involved surveys, hands-on evaluations, and TAM-based questionnaires assessing perceived usefulness (PU) and ease of use (PEOU).

Using simple random sampling, the study ensured a fair selection of participants. A paired t-test analyzed accuracy and speed differences between manual and web-based methods, providing insights into the system's effectiveness in improving school record management.

Results and Discussion

The summary of findings presents a comprehensive overview of the key results obtained from the study on the performance of the school records management system at Gani L. Abpi College Incorporated. This section synthesizes essential data, highlighting the most significant differences between the manual record-keeping method and the web-based SRSys system. By automating record management, SRSys enhances efficiency, accuracy, and reliability, effectively addressing common issues associated with manual systems, such as delayed data retrieval and human errors. These findings provide the basis for further analysis and discussion, demonstrating that SRSys significantly improves the speed and precision of record management. Through this structured presentation, the study clearly outlines its impact on achieving the research objectives and emphasizes the implications of digital transformation in administrative processes.

Evaluation of SRSys based on Perceived- Usefulness and Perceived- Ease- of - Use

Fred Davis (1989) stressed out that Perceived usefulness refers to the degree to which a person believes that using a particular system or technology will enhance their job performance. It significantly

influences a user's decision to adopt and continue using a technology. On the other hand, perceived ease of use refers to the degree to which a person believes that using a particular system or technology will be free from effort

Table 1 Evaluation Results of the SRSys based on Perceived- Usefulness

1	Perceive Usefulness	MEAN	SD	Interpretation
1.1	Using SRSys in my job would enable me to accomplish more quickly.	4.80	0.40	Extremely Likely
1.2	Using SRSys would improve my job performance.	4.76	0.43	Extremely Likely
1.3	Using SRSys in my job would increase my productivity.	4.78	0.42	Extremely Likely
1.4	Using SRSys would enhance my effectiveness on the job.	4.92	0.27	Extremely Likely
1.5	Using SRSys would make it easier to do my job.	4.96	0.20	Extremely Likely
1.6	I would find SRSys useful in my job.	4.88	0.33	Extremely Likely
TOTAL		4.85	0.34	Extremely Likely

The perceived usefulness of SRSys, a web-based school record management system, was evaluated positively by respondents, with all statements receiving a mean rating above 4.75, classified as "Extremely Likely." The highest-rated statement, "Using SRSys would make it easier to do my job" (Mean = 4.96, SD = 0.20), highlights the system's efficiency in streamlining tasks. Other high-rated statements, such as "Using SRSys would enhance my effectiveness on the job" (Mean = 4.92, SD = 0.27) and "Using SRSys in my job would enable me to accomplish tasks more quickly" (Mean = 4.80, SD = 0.40), further confirm users' strong confidence in the system. The overall mean of 4.85 and low standard deviation indicate consistent satisfaction and reliability among users. These findings align with Davis's (1989) Technology Acceptance Model (TAM), which emphasizes perceived usefulness as a critical factor in system adoption. Additionally, studies such as Tubaishat (2017) validate that web-based record management systems enhance efficiency and streamline workflows, reinforcing SRSys's role as a valuable tool for educational institutions.

Table 2. Evaluation Results of the SRSys in terms of Perceived- Ease- of – Use

	Perceive Ease of Use	MEAN	SD	Interpretation
2.1	Learning to operate SRSys would be easy for me	4.94	0.24	Extremely Likely
2.2	I would find it easy to get SRSys to do what I want it to do	4.90	0.30	Extremely Likely
2.3	My interactions with SRSys would be clear and understandable	4.92	0.27	Extremely Likely
2.4	I would find SRSys would be clear and understandable	4.92	0.27	Extremely Likely
2.5	It would be easy for me to become skilfully at using SRSys	4.96	0.20	Extremely Likely
2.6	I would say that SRSys is easy to use.	4.88	0.33	Extremely Likely
TOTAL		4.92	0.27	Extremely Likely

The perceived ease of use of SRSys, a web-based school record management system, received overwhelmingly positive feedback from respondents, with all statements attaining a mean rating above 4.88. The highest-rated statement, "It would be easy for me to become skillful at using SRSys" (Mean = 4.96, SD = 0.20), reflects users' confidence in their ability to learn and effectively utilize the system. Additionally, statements regarding learning difficulty and system clarity were highly rated, reinforcing SRSys's intuitive design and user-friendly interface. With an overall mean of 4.92 and minimal variability in responses, findings emphasize SRSys's accessibility and ease of use. These results support Davis's (1989) Technology Acceptance Model (TAM), which identifies user-friendly design as a crucial factor in technology adoption. Moreover, prior studies, including those by Bwalya et al. (2014) and Tubaihat (2017), validate that systems requiring minimal effort for navigation foster long-term engagement and seamless integration into institutional workflows.

Accuracy of Respondents in Using Manual Method and SRSys.

According to Pulakos, E. D. (2004) accuracy refers to the precision and correctness with which an employee performs their tasks and duties. It involves completing tasks with a high level of exactness and minimizing errors. Thus, to assess the accuracy of the developed system, respondents were asked to evaluate its performance using a list of indicators and the corresponding results are displayed in Table below:

Table 3. Evaluation Results of Using Manual Method and SRSys in terms of Accuracy.

Respondent No.	Type of Respondent	ACCURACY	
		Manual (Errors)	Web-Based (Errors)
1	Registrar	5	1
2	Staff	7	2
3	Staff	10	2
4	Prog. Head	4	1
5	Prog. Head	7	2
6	Faculty	6	1
7	Faculty	12	3
8	Faculty	8	2
9	Faculty	9	2
10	Faculty	6	1
11	Student	11	2
12	Student	7	2
13	Student	5	1
14	Student	6	1
15	Student	8	2
MEAN		7.4	1.6

Accuracy, which refers to precision and correctness in task execution, was significantly improved with SRSys compared to the manual method. The manual system recorded an average of 7.4 errors, whereas the web-based system reduced this to just 1.6 errors. Faculty members and students, who frequently interact with records, experienced the highest error rates in the manual system, ranging from 6 to 12 errors, but these errors significantly decreased to 1 to 3 errors when using SRSys. These findings highlight the effectiveness of automation in minimizing human error and ensuring data integrity. Research by Pulakos (2004) and Capterra (2025) supports this, affirming that digital automation enhances precision in record

management and aligns with Davis's (1989) Technology Acceptance Model (TAM), which links perceived usefulness with technology adoption. Moreover, SRSys offers valuable implications for educational institutions by significantly improving accuracy, efficiency, and usability, reinforcing the importance of digital transformation in school record management. By streamlining administrative workflows, reducing errors, and enhancing task completion speed, SRSys optimizes institutional productivity and improves overall service quality. These insights further support established research on the benefits of web-based systems in enhancing educational administration, demonstrating SRSys as a highly effective tool that modernizes school record management while providing a user-friendly and efficient platform for stakeholders.

Speed of Respondents in Using Manual Method and SRSys.

To assess the speed of the developed system, respondents were asked to evaluate its performance using a list of indicators and the corresponding results are displayed in Table 4. Speed refers to critical factor in job performance, as it directly impacts productivity and efficiency. Employees who can complete tasks quickly without compromising quality are often seen as high performers, Pulakos, E. D. (2004).

Table 4. Evaluation Results of Using Manual Method and SRSys in terms of Speed.

Respondent No.	Type of Respondent	SPEED	
		Manual (in seconds)	Web-Based (in seconds)
1	Registrar	255	90
2	Staff	265	85
3	Staff	284	115
4	Prog. Head	261	79
5	Prog. Head	259	70
6	Faculty	271	120
7	Faculty	190	55
8	Faculty	201	57
9	Faculty	220	51
10	Faculty	205	45
11	Student	225	62
12	Student	190	54
13	Student	215	59
14	Student	185	52
15	Student	208	47
MEAN		228	69

The evaluation of SRSys in terms of speed demonstrates a significant improvement in efficiency compared to manual record management. The manual system averaged 228 seconds per task, while the web-based system reduced this time to just 69 seconds, highlighting a substantial decrease in processing time. Registrars, staff, and program heads experienced notable time reductions, as did faculty members and students, emphasizing the system's ability to optimize workflows. These findings confirm that automation enhances efficiency by eliminating repetitive tasks, reducing workload, and expediting data retrieval. Additionally, the results align with Davis's (1989) Technology Acceptance Model (TAM) and prior studies,

which emphasize the role of digital systems in improving operational speed. By streamlining administrative processes, SRSys contributes to institutional productivity and enhances record management, reinforcing the value of digital transformation in education.

Table 5. Significant Difference on the Performance of Using Manual Method and SRSys in terms of Accuracy.

Variable	System	N	M	SD	t-statistic	Df	P-value	Decision	Interpretation
Accuracy	Manual	15					.000	Reject the null hypothesis	There is a significant difference.
	Web-Based	15	7.4	2.29	12.395	14	.000	Reject the null hypothesis	There is a significant difference.
			1.7	0.62					

The paired t-test analysis indicates a significant difference in accuracy between the manual and web-based systems, with SRSys demonstrating superior performance ($t(14)=12.395, p<.000$). The manual system had a higher error rate ($M=7.4, SD=2.29$), while SRSys significantly reduced errors ($M=1.7, SD=0.62$), confirming its effectiveness in minimizing inaccuracies in record management. These findings align with Tubaishat (2017) and Samat et al. (2020), who emphasize that automation enhances precision and efficiency by reducing human errors. Additionally, the results support Davis's (1989) Technology Acceptance Model (TAM), highlighting that perceived usefulness and ease of use play crucial roles in system adoption. Further validation comes from Abu Naser and Al Shobaki (2017), who found that computerized record management significantly improves accuracy, efficiency, and data integrity in educational institutions. Overall, the study reinforces the importance of digital transformation, demonstrating that SRSys enhances record management reliability and operational effectiveness.

Table 6. Significant Difference on the Performance of Using Manual Method and SRSys in terms of Speed.

Variable	System	N	M	SD	t-statistic	Df	p-value	Decision	Interpretation
Speed	Manual	15					.000	Reject the null hypothesis	There is a significant difference.
	Web-Based	15	228.9	33.55	35.665	14	.000	Reject the null hypothesis	There is a significant difference.
			69.4	23.75		14			

The paired t-test analysis reveals a significant difference in speed between the manual and web-based systems, with SRSys demonstrating substantial efficiency gains ($t(14)=35.665, p<.000$). The manual system required an average of 228.9 seconds per task ($SD=33.55$), whereas the web-based system significantly

reduced this to 69.4 seconds ($SD=23.75$), highlighting its ability to streamline operations. These results align with research by Tubaishat (2017) and Samat et al. (2020), which emphasize that digital automation minimizes delays in data processing and retrieval, leading to enhanced productivity. By eliminating manual inefficiencies, SRSys improves workflow, optimizes task completion times, and reinforces the advantages of web-based systems in modern educational administration.

Conclusion and Recommendation

1. The results showed highly positive user feedback, with Perceived Usefulness and Perceived Ease of Use receiving exceptionally high ratings, averaging above 4.85. This demonstrates that users found SRSys both effective in enhancing task performance and intuitive to learn and navigate. Overall, the findings confirm that SRSys boosts efficiency, automates tasks, and improves job performance while ensuring reliability and ease of use.
2. The implementation of SRSys significantly improved accuracy, reducing the average number of errors from 7.4 in the manual system to 1.6 in the web-based system. This substantial decrease highlights the system's ability to streamline record management by minimizing manual intervention, thereby reducing typographical errors and inconsistencies. Automation enhances data precision by standardizing input and retrieval, ensuring greater accuracy and consistency in school records. These findings align with Pulakos (2004), who emphasized the importance of accuracy in job performance, and Tubaishat (2017), who confirmed that automated systems improve efficiency by minimizing errors. Beyond error reduction, the accuracy improvements achieved through SRSys contribute to institutional efficiency, faster processing, and reduced administrative workload, ultimately enhancing service quality for faculty, staff, and students. These results support Davis's (1989) Technology Acceptance Model (TAM), demonstrating that perceived usefulness and ease of use influence system adoption. Additionally, research by Abu Naser and Al Shobaki (2017) highlights that computerized record management systems significantly improve accuracy and efficiency in educational institutions. Overall, transitioning from manual to web-based record management not only enhances accuracy but also strengthens institutional productivity, ensuring seamless operations and better data integrity in school administration.
3. The implementation of SRSys led to a substantial improvement in task completion speed, with the average time required decreasing from 228.9 seconds in the manual system to just 69.4 seconds in the web-based system. This dramatic reduction highlights the system's efficiency in processing data by centralizing access, allowing for significantly faster retrieval and updates. Unlike traditional manual methods, which often involve searching through physical records and verifying entries manually, SRSys streamlines these processes through automation, minimizing unnecessary delays and optimizing workflow. The ability to expedite administrative tasks enables staff, faculty, and students to focus on more strategic functions, improving overall institutional productivity. These findings align with Tubaishat (2017) and Samat et al. (2020), who emphasized that digital systems enhance operational speed by reducing human intervention and ensuring seamless data processing. Furthermore, Pai & Chandrasekharan (2010) highlight that web-based platforms create an organized, efficient system by enabling centralized access to records, reducing time spent on data entry and retrieval. As institutions increasingly adopt automated solutions, SRSys proves to be an essential tool in modernizing educational administration, reinforcing the importance of digital transformation in optimizing speed, accuracy, and overall effectiveness.



4. The statistical analysis using paired t-tests confirms a significant difference in accuracy between the manual system and SRSys, demonstrating the system's effectiveness in minimizing errors. The manual method recorded an average of 7.4 errors, whereas SRSys drastically reduced this number to 1.6 errors. This improvement highlights the system's ability to automate data entry, eliminating inconsistencies caused by human error, such as typographical mistakes and incorrect record filing. By ensuring greater precision and reliability, SRSys enhances institutional efficiency and improves the overall integrity of student records. These findings align with Davis's (1989) Technology Acceptance Model (TAM), which suggests that systems offering clear benefits, such as improved accuracy, are more readily adopted by users. Additionally, studies like Tubaishat (2017) and Abu Naser & Al Shobaki (2017) emphasize how automation significantly reduces errors, strengthening institutional operations and decision-making.
5. The statistical analysis using paired t-test analysis also reveals a significant difference in speed, confirming SRSys's efficiency in streamlining record management tasks. The manual method required an average of 228.9 seconds per task, while SRSys reduced this to just 69.4 seconds, demonstrating a substantial decrease in processing time. The system's ability to centralize access, automate repetitive tasks, and expedite data retrieval enables faster completion of administrative operations, ultimately optimizing workflow efficiency. Studies such as Samat et al. (2020) and Pai & Chandrasekharan (2010) further support the conclusion that web-based systems improve operational speed by eliminating manual processes prone to delays. The dramatic improvement in processing time reinforces the importance of digital transformation in academic administration, allowing institutions to optimize resource allocation and enhance service delivery. By significantly reducing workload and increasing efficiency, SRSys proves to be an essential tool for modern educational institutions striving for productivity and accuracy in record management.

Recommendations

1. Gani L. Abpi College Incorporated may fully adopt the SRSys web-based School Records Management System to replace manual record-keeping methods, as it has proven to be more accurate, efficient, and reliable.
2. Implement standardized data entry processes across departments to enhance precision, ensure uniformity, and significantly reduce errors, thereby optimizing overall data reliability.
3. Institutions should leverage the SRSys's capabilities for real-time access to information, using centralized data for timely and informed decisions regarding academic performance and administrative matters.
4. Regular assessments of the system should be conducted, including user feedback and performance analysis, to ensure its continuous improvement and alignment with institutional goals.
5. Workflows and processes should be restructured to align with the system's capabilities, ensuring that tasks requiring timely execution, such as data retrieval and updates, are prioritized. Regular training for users is also advised to ensure they can maximize the time-saving potential of the system effectively.

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