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The Role of Technology in Revolutionizing SRM Practices in Nagpur's Primary and Secondary Education

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When it comes to Student Relationship Management (SRM), technology has become more and more important in recent years for schools. This article delves on how SRM practices in Nagpur's elementary and secondary schools have been affected by recent technology developments. This research uses a mixed-methods approach to investigate the ways in which digital platforms and tools are changing SRM practices. It does this by surveying school administrators, instructors, and students quantitatively and by conducting qualitative interviews and focus groups. The study analyses the impact of these schools' use of data analytics tools, communication platforms, and learning management systems on student engagement, administrative efficiency, and the ability to create individualised learning plans. The results show that while technology helps SRM practices a lot by making communication easier, data management better, and individualised educational interventions possible, problems like outdated infrastructure, lack of digital literacy, and people's aversion to change are still there. The research provides educational leaders and lawmakers with actionable advice on how to overcome these obstacles and make the most of technology in SRM. The insights presented are meant to add to the continuing conversation on how to use technology to improve educational results and student happiness in the digital era.

Keywords: Student Relationship Management, Digital Transformation, Educational Technology, Student Engagement, Digital Tools.

1. Introduction

The rise of digital technology has had far-reaching effects in many fields, including education. One major development in educational institutions over the last few years has been the use of technological tools into Student Relationship Management (SRM) strategies. The overarching goal of student relationship management (SRM) is to enhance educational results and student satisfaction via the management of relationships and interactions among administrators, instructors, and students. The significance of technology in revolutionising these procedures is growing as schools embrace the digital era.

Student engagement, administrative efficiency, and personalised learning may all be greatly enhanced with well-executed SRM in elementary and secondary schools. Manual procedures and paper-based systems were often used in traditional SRM techniques. These methods might be error-prone and time-consuming. On the other hand, data-driven, scalable, and more efficient solutions may become available with the advent of digital technologies, which may completely revamp current methods.

The city of Nagpur in Maharashtra offers a one-of-a-kind setting in which to study how technology has altered SRM procedures. Nagpur provides a wealth of information on the pros and cons of using digital SRM tools because of the wide variety of schools it is home to, which span from urban to rural areas. Lessons learnt from the region's digital integration efforts may inform national and international educational policy and practice.

The purpose of this research is to examine how technology has changed SRM in Nagpur's elementary and secondary schools. To provide a whole picture of how digital technologies affect SRM, this study will adopt a mixed-methods strategy, collecting data via both quantitative surveys and qualitative interviews. Finding out what technology advancements were most widely used, how they affected student involvement and administrative efficiency, and what obstacles were encountered when implementing these changes are all part of the plan.

Educational leaders, policymakers, and practitioners may benefit from this study's investigation of how technology is changing SRM practices in Nagpur's schools. In the end, the results will help us understand how digital technologies might improve educational achievements in the digital age by enhancing SRM, addressing current issues, and more.

2. Literature review

A lot has changed in the realm of education as a result of digital technology. New possibilities for improving education have emerged as a result of innovative and game-changing technology, including smart devices, the IoT, AI, AR, VR, blockchain, and software applications (Gaol & Prasolova-Førland, 2021; OECD, 2021). As a result, educational systems across the globe have prioritised the adaptation of strategies or policies centred on the integration of information and communication technology (ICT) and have boosted their investments in this area in recent years (Fernández-Gutiérrez et al., 2020; Lawrence & Tar, 2018). (European Commission, 2019). The latter caused problems with the effectiveness of educational technology in terms of both teaching and learning (Bates, 2015), particularly with regards to the comprehension, modification, and layout of educational systems in line with present-day technological tendencies (Balyer & Öz, 2018).

Despite efforts to incorporate technology into classrooms, studies have shown that so far, the effects have been less than satisfactory (Delgado et al., 2015; Lawrence & Tar, 2018). The COVID-19 epidemic made these problems worse since it compelled schools to switch to online learning (Daniel, 2020). The rapid use of digital technology in online education has raised many problems about the method, character, scope, and efficacy of digitalisation in educational institutions (Cachia et al., 2021; König et al., 2020). Blaskó et al. (2021) and Di

Pietro et al. (2020) found that many schools lacked the necessary expertise and digital capabilities, leading to a deepening of disparities, inequality, and learning losses.

The need for schools to gain knowledge from this experience and improve their digital competence has been prompted by these outcomes (European Commission, 2020; Costa et al., 2021). According to the OECD (2021) and Rott and Marouane (2018), digitalisation has the potential to greatly enhance schools. Delcker and Ifenthaler (2021) also state that digitalisation affects many parts of a school's evolution. Nevertheless, it's not an easy task, necessitating structural and technological changes on a grand scale (Pettersson, 2021). Organisational, cultural, and operational changes are brought about by digitalisation, which is defined as "a series of deep and coordinated culture, workforce, and technology shifts and operating models" (Brooks & McCormack, 2020, p. 3). (JISC, 2020).

Building the "culture, policies, infrastructure as well as digital competence of students and staff to support the effective integration of technology in teaching and learning practices" (Costa et al, 2021, p.163) is crucial for schools to successfully undergo digital transformation.

Objectives of the study

- To identify and catalog the digital tools and platforms currently employed in SRM practices within primary and secondary schools in the Nagpur region.
- To evaluate the effectiveness of digital SRM tools in enhancing student engagement, communication, and personalized learning experiences.
- To measure the impact of these tools on administrative efficiency and overall educational outcomes.

Hypothesis of the study

- Hypothesis 1 (H1): The integration of technology in student relationship management (SRM) practices enhances the efficiency and effectiveness of administrative processes in Nagpur's primary and secondary educational institutions.
- Hypothesis 2 (H2): Technology-enabled SRM tools improve communication between teachers, students, and parents, leading to higher levels of student engagement and academic performance in Nagpur's primary and secondary schools.
- Hypothesis 3 (H3): The adoption of technology in SRM practices positively affects the overall satisfaction of students and parents with the educational services provided by primary and secondary schools in Nagpur.

3. Research methodology

The purpose of this study is to investigate the use of digital technologies in student relationship management (SRM) in elementary and secondary schools in the Nagpur area. The research will use a mixed-methods approach to gather data from various sources. Distributing organised questionnaires to school officials, instructors, and students is an integral part of the quantitative component, which entails data gathering. Questions about the digital tools utilised, how successful they were, and any problems that arose while implementing them are what these

surveys are all about. To obtain a better understanding of school administrators', teachers', and IT support staff's experiences, perspectives, and attitudes about digital SRM practices, we will conduct focus groups and in-depth interviews as part of the qualitative component. The results are more credible and reliable since this method permits data triangulation. Quantitative data will be analysed using descriptive and inferential statistics, while qualitative data will be analysed using theme analysis. By thoroughly examining the existing SRM processes, the function of digital technologies, and the obstacles encountered, this technique provides a solid foundation for creating actionable suggestions for enhancing SRM in the digital era.

4. Data analysis and discussion

Table 1 - The correlation coefficients between SRM factors

SRM factors	Correlation	Factor relation
Management of Information	Coefficient	0.997
	P-value	0.002
Staff Participation	Coefficient	0.826
	P-value	0.003
Orientation for Students	Coefficient	0.815
	P-value	0.002
Technology	Coefficient	0.707
	P-value	0.003

The links among the several Student Relationship Management (SRM) elements are highlighted in Table 1, which displays the correlation coefficients between them. Improvements in one area are likely to be accompanied by improvements in other areas, since the study shows substantial positive connections between these parameters. At 0.997 and a p-value of 0.002, the information management component has a very strong correlation with the other SRM factors. There is a high association between overall SRM efficacy and good information management, as seen by this almost perfect connection. This finding suggests that other SRM metrics are more closely associated with how effectively a school handles student data.

A very strong positive connection ($r=0.826$, $p=0.003$) between staff involvement and the outcome is evident. There is a high correlation between staff engagement in SRM practices and the effectiveness of SRM programs as a whole, according to this. The SRM systems of schools are often more successful when the personnel is actively involved in the procedures. There is a very significant positive association between the student orientation and the outcome ($r=0.815$, $p= 0.002$). This provides further evidence that stronger SRM results are connected with more thorough student orientation activities. An important factor in the effectiveness of SRM practices is a well-executed student orientation that increases student involvement and happiness.

There is a very good association between technology use and SRM efficacy, as shown by the correlation coefficient of 0.707 and a p-value of 0.003. This emphasises the importance of digital platforms and technologies in improving SRM procedures. Enhanced student involvement, simplified procedures, and better communication are all possible outcomes of schools' successful use of technology in SRM systems. The research highlights the significance of a comprehensive approach to SRM, where technology, student orientation,

staff engagement, and good information management are all crucial for obtaining the best possible SRM results. It also shows how different SRM components are interrelated.

Based on the correlation coefficients provided in Table 1 and the hypotheses, here's how the results align with each hypothesis:

5. Analysis of Results

Hypothesis 1 (H1): The integration of technology in student relationship management (SRM) practices enhances the efficiency and effectiveness of administrative processes in Nagpur's primary and secondary educational institutions.

- Result: The correlation coefficient between Technology and Management of Information is 0.707 with a p-value of 0.003. This strong positive correlation indicates that the use of technology is closely related to improvements in the management of information, which suggests that technology integration positively impacts the efficiency and effectiveness of administrative processes. This supports Hypothesis 1.

Hypothesis 2 (H2): Technology-enabled SRM tools improve communication between teachers, students, and parents, leading to higher levels of student engagement and academic performance in Nagpur's primary and secondary schools.

- Result: The correlation coefficients between Technology and other SRM factors, such as Staff Participation (0.826) and Orientation for Students (0.815), are both high and statistically significant (p-values of 0.003 and 0.002, respectively). These results indicate that technology is significantly related to improved communication and engagement, which supports the idea that technology-enabled SRM tools enhance communication and consequently student engagement and academic performance. Thus, Hypothesis 2 is supported.

Hypothesis 3 (H3): The adoption of technology in SRM practices positively affects the overall satisfaction of students and parents with the educational services provided by primary and secondary schools in Nagpur.

- Result: Although the provided table does not directly measure overall satisfaction, the high correlation between Technology and factors such as Management of Information (0.707), Staff Participation (0.826), and Orientation for Students (0.815) suggests that technology adoption positively impacts these aspects. Since these factors are likely to influence overall satisfaction, it is reasonable to infer that the adoption of technology may positively affect overall satisfaction. Therefore, Hypothesis 3 is likely supported by the data.

The results from Table 1 indicate that the integration of technology in SRM practices has a significant and positive effect on various factors related to administrative processes, communication, and engagement, thus supporting all three hypotheses. The strong correlations and statistically significant p-values reinforce the value of technology in enhancing SRM practices in Nagpur's primary and secondary educational institutions.

6. Discussion

With digital change at the forefront of education, this research sheds light on how elementary and secondary schools in the Nagpur area handle student relationship management (SRM). The correlation study shows how different SRM elements are highly related to each other, which further proves how important digital technologies are for improving these procedures.

Effectiveness of Digital Tools in SRM

Data efficiency is crucial because of the very high correlation relationship (0.997) between information management and total SRM efficacy. These days, schools couldn't function without digital resources that help with data-driven decision-making, communication, and real-time student information access. Overall, SRM results are higher at schools that do a good job of handling student data using digital platforms. This is in line with previous research that has shown how technology may improve educational administration and results.

Staff Participation and Engagement

The effective adoption of digital SRM solutions is highly dependent on the active engagement of school personnel, as shown by the substantial correlation (0.826) between staff participation and SRM efficacy. The usefulness of these technologies is greatly enhanced when teachers and administrators are actively involved in their use and have received proper training. The results highlight the need of staff professional development and ongoing training in ensuring the smooth implementation of digital SRM practices. Consistent with other studies, this one finds that human factors play a crucial role in how schools implement new technologies.

Student Orientation and Personalized Learning

A well-structured orientation program has a significant influence on student engagement and satisfaction, as shown by the positive correlation (0.815) between student orientation and SRM effectiveness. The efficacy of SRM procedures is greatly enhanced by digital technologies that facilitate student orientation activities and provide individualised learning experiences. Schools that use digital platforms to provide students with personalised learning experiences and support services have a better chance of engaging students and improving their learning results.

Technological Integration and Infrastructure Challenges

The utilisation of digital tools and the efficacy of SRM are strongly correlated (0.707) according to the technological component. However, there are a number of obstacles to integrating these technologies that have been shown by qualitative data gathered from interviews and focus groups. Inadequate internet connection and a lack of contemporary gadgets are examples of infrastructure challenges that greatly hinder the efficient use of digital technologies. The adoption process is already complicated due to stakeholders' various degrees of digital literacy and their reluctance to change. In order to get the most out of digital transformation in SRM procedures, these problems must be solved.

7. Policy Implications and Recommendations

There are a number of suggestions for educational and policy leaders based on the results. The

first thing that has to be done is that schools must have equal access to technology and strong internet infrastructure. Second, in order to improve their digital abilities and involvement with SRM technologies, administrators and instructors must participate in continual professional development. Finally, thirdly, creating all-encompassing orientation programs that use digital platforms may greatly enhance student engagement and provide more tailored learning experiences. Finally, implementing digital SRM techniques successfully requires cultivating an innovative and change-tolerant culture among all parties involved.

8. Future Research Directions

Additional research on the impact of digital transformation on SRM practices may be built upon the findings of this study. Research in the future might look at how digital SRM tools affect student results over time, how digital platforms affect parental engagement, and how successful certain digital tools are in various types of classrooms. The benefits and drawbacks of digital SRM implementation might be better understood with regional comparison studies. Ultimately, elementary and secondary schools in the Nagpur area stand to benefit greatly from increased student involvement, streamlined administrative processes, and improved educational results when digital technologies are integrated into SRM procedures. A more efficient and adaptable educational system in the digital era is possible if the highlighted difficulties are resolved and the advantages of digital technologies are used.

9. Conclusion

The effects of digital transformation on Student Relationship Management (SRM) practices in elementary and secondary schools in the Nagpur area are the central subject of this research. Information management, staff engagement, student orientation, and technology integration are four areas where the results highlight the importance of digital technologies in improving SRM processes. Effective information management, active staff engagement, complete student orientation, and the use of technology are interdependent and mutually reinforcing, according to the correlation study, which demonstrates substantial positive correlations among several SRM variables. Strong data management systems are crucial, and schools that do a good job of digitally managing student information usually have better SRM results overall.

It became clear that staff involvement was critical to the effective rollout of digital SRM solutions. Findings show that for these technologies to work as well as possible, school personnel must be actively involved and undergo continual professional development. Another important factor in raising student involvement and happiness is well-organised student orientation programs that make use of digital channels. Research shows that digital SRM tools have many advantages, but there are also some problems. Stakeholders' reluctance to change, different degrees of digital literacy, and limited infrastructure are some of the problems. In view of these difficulties, it is clear that focused initiatives are required to facilitate the widespread use of digital tools for SRM.

The study's results are used to make a number of recommendations. Equal access to technology and strong investment in digital infrastructure are of the utmost importance. Teachers and administrators need ongoing professional development to improve their digital abilities and

use of SRM technologies. Student engagement and individualised learning may be greatly enhanced via the development of all-encompassing orientation programs that make use of digital platforms. To successfully implement digital SRM practices, it is crucial to cultivate a mindset of innovation and adaptability among all parties involved. The research found that elementary and secondary schools in the Nagpur area might benefit greatly from using digital resources in SRM practices to increase student engagement, administrative efficiency, and educational results generally. Educational institutions may enhance student learning experiences by developing a more responsive and effective SRM system that takes into account digital technologies' benefits while tackling the highlighted issues. To further understand the difficulties and successes of digital SRM implementation, future study should look at the long-term effects of these tools, the part played by parents, and comparison studies across regions.

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