

Analysis on the Implementation of Student Information Management System in Secondary Schools of Jaipur City

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Abstract – The application of new discoveries and innovative technologies in the field of education helps to improve the quality of education. Educational Technology mainly comprises of hardware, software and instructional design. It can be said, undoubtedly, that educational technology is a technology through which we can make educational process more easy and effective. When the communication technology is integrated with Information Technology, the Information and Communication Technology is formed. The use of ICT in education has a huge potential for the enrichment in formal education system. ICT can be utilized as an informative, constructive and communicative tool. Thus, ICT has the potential to utilize in almost all the processes of education like teaching learning process, administration of the institution, managerial, clerical, laboratory, library etc. For evaluation purpose, computer software is used to evaluate the students learning. It is easier for teachers to evaluate answer sheets of students with its help. It also helps in conducting various exams viz. admission tests, monthly tests, yearly tests, and keeping and maintaining the records. One such important use of software in education is management. Managing activities is the newer application of computer software. The software aspect of Information Technology mainly comprises of management information system and decision support system. In this article we will study about the result of implementing the student information management techniques in the Secondary schools of Jaipur city, Rajasthan.

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I. INTRODUCTION

Education is a pillar of developed and a powerful country, besides being the most important element for growth and prosperity of a nation, education gives knowledge and enlightenment which opens up new vistas of development of humanism and also transforms a human being into a wholesome noble soul and promotes universal brotherhood in its true senses. Education is one of the most influencing systems of our society for the development and growth of the nation. The education system of a society reflects its image. As more and more people are getting educated we are becoming more civilized society.

A. Student Information Management System (SIMS)

Student Information Management System is software with an online website of the school and an intranet (Campus) version in the school. The Student Information Management System is an interactive platform for all entities viz. students, Teachers, Management, Parents and experts of an educational Institution. It is a simple yet powerful one-point

integrated platform that connects all the departments of an institution namely, office, fee counter, academics, activity centre and so on. Information systems support not only information process but also innovations. As being adaptable to changes, these systems are helpful to cope with the demands for change. Therefore, student management system improves the adaptation of the school to the environment. They enable the school to comprehend and define inner and outer information transfer. Thereby, student management both meets the demands and expectations of its inner (teacher, student) and outer members; and ensures that school activities are arranged accurately and on time (Pegler, 2002).

As we can see information systems have changed the roles of school managers and have changed their methods of working. One of these is to develop a database that includes information on student registration and family, discontinuity, grades, staff and classes, and course information. These are just a step of school information systems. Other parts of information systems are management of school library, finance, fixtures, school schedule planning, standard reports sent to

higher levels of school administration, etc. These are simple data processing activities that increase efficiency of school management (Telem and Buvitski, 1995).

B. Education Status in Rajasthan

Rajasthan is located on the northwest side of India. Area wise it is the largest state of India. The education scene of the state is changing frequently owing to the initiatives taken by the Government and the involvement of other institutions. For providing educational services, enrollment of students in schools, abbreviating gender disparities and promoting education, a number of policies have been implemented. There has been a leap in the literacy rate in the last ten years. The literacy rate grew from 38% in 1991 to over 66.11 % in 2011. In the near future the state aims to attain a further remarkable percentage increase in literacy rate. There are more than 7500 schools in Rajasthan. It includes CBSE, ICSE, State board and other International schools. Jaipur, known as pink city, besides being a capital city of Rajasthan, It is a cultural hub and a great tourist destination on the world map is a home for large number of schools, Jaipur is an educational hub which attracts students from all over the country. There are more than 508 private schools in Jaipur. Out of these 153 schools are CBSE affiliated. There are 6 ICSE affiliated schools. In the recent times, Government of Rajasthan is providing online information regarding its updates through its websites i.e. www.raj.eduboard.rajasthan and through its portal www.rajasthaneducationportal. Various circulars governing secondary schools are uploaded on government of Rajasthan's websites from where schools can access guidelines and latest informations (ICT, 2011).

Jaipur is turning as an educational hub of Rajasthan as day by day new schools are establishing to promote education. As Student Information Management System is not only a technical segment but it also provides a series of information which helps in resolving the problem of management, staff, parents and students, the upshots of various studies under the broad theme related to Information and Communication Technology is still untouched. So far as the studies in India are concerned, Student Information Management System is new and innovative area under Information and communication Technology (ICT). So, there is always a chance for a new finding. The question researcher ought to seek is what, where and to what extent Student Information Management System is using by the multi stakeholders? Here is an effort for it to study the functions, implementation and barriers of Student Information Management System in secondary schools of Jaipur city (Visscher and Wild, 1997).

II. REVIEW OF LITERATURE

Keer, Hilde van & Braak, Johan van (2008) [5] have conducted a research on ICT integration in the classroom. The research explores ICT integration from a school improvement approach. It examines the school policy with respect to ICT integration from both the principal's perspective and perceptions of teachers. It studies the relationship between school policies and the actual use of ICT in the classroom. A representative sample of 53 primary school principals was interviewed. The survey of 574 teachers from the same 53 schools was done. The findings suggested that school-related policies, such as an Information and Communication Technology plan, Information and Communication Technology support and Information and Communication Technology training have a significant effect on class use of ICT. The findings from the interviews indicate that school policies are often underdeveloped and under effective.

Sidhaye and Kamble (2010) [6] conducted a research on use of ICT and its Effectiveness in Teaching/Learning in Schools. He said that ICT has interactive features and use of it in teaching mathematics and science to 12-15 years old students showed positive gain literacy. The researcher visited the classroom to identify the pedagogy that helped the student to achieve progress in study. They found that the students who were using ICT gained exceptional progress than student who was not using it. Young children with limited writing skills and older pupils with special educational needs are highly motivated by being able to demonstrate their skills. These effects are greatest when they have the opportunity, individually or in small groups, for extended use of the computers rather than as part of whole class teaching. The ICT is in effect a mediating artifact in interactions between teacher and pupils.

Bisht and Malhotra (2012) [7] explored the Information and Communication Technologies in teacher education. Professional development to incorporate ICT in teaching and learning is an ongoing process. Teachers need to upgrade their knowledge and skills. Teachers need to be trained in issues related to ICT. In teacher education, ICT skills must be developed in teacher education in order to provide suitable learning environment for ICT and to use ICT for optimizing the process of education. For teacher education institutions to survive and be a leader in the dynamic knowledge society, the use of ICT must develop reflection, collaboration and autonomy among the learners.

Qtaibi (2012) [8] conducted a study on attitude towards the use of internet. The main objective of the study was to find out the attitude of students towards the use of internet. The attitude scale was used and random sampling method was used to select 216 students at teacher colleges at King

Saud University. The result revealed that students have positive attitude towards the use of internet. They use internet for so many purposes i.e. educational, cultural, leisure, entertainment and purchasing purposes. Besides, there is the general attitude towards the internet in favour of the high users of the internet.

M., Anitha (2013) [9] studied the perceptions of teacher educators towards application of computers in teaching learning process. The results show that teacher educators have good computer operational skills but the facility to apply and integrate computer education in teacher educational institutions is very nominal. Only teacher educators are utilizing internet in their day to day academic updates. Many of the variables chosen for the study have no significant influence on the perceptions relating to the application of computer in teacher education.

Prashanthakumara (2015) [10] explored the enhancing process of teaching learning through Technology in Classroom. He said that technology is the means to enhance teaching learning quality. Technology can be used to display information, increase access to information, sharing and organizing better class presentations and improve information. Educators must know how to implement new technology into the learning environment and focus efforts on facilitating and not implementing multimedia toys. He also said that we need education for 21st Century. To fulfill the need of the students new tools and strategies must be introduced to them; the old sit and get approach to learning is not effective. All the process of learning is crossing the boundaries and barriers. This tendency requires a change in knowledge competencies and skills to deal with technological advancement in networking which is necessary to establish a network between students, educators, parents, institutions and libraries world over. Therefore the use of technology in education not only enhance classroom teaching learning process but also facilitate e-learning.

III. OBJECTIVES OF THE RESEARCH WORK

1. To identify the functions of Student Information Management System in Secondary schools of Jaipur city.
2. To study the implementation of Student Information Management System in different Secondary schools of Jaipur city.
3. To find out the barriers in the implementation of Student Information Management System in Secondary schools of Jaipur city.

4. To find the use of Student Information Management System for the administrators of Secondary schools of Jaipur city.

A. Problem Statement

A Study of the Functioning, Implementation, and Barriers of Student Information Management System in Secondary Schools of Jaipur City

IV. RESEARCH METHODOLOGY

In the present study, survey method was adopted to collect the information required to conduct the analysis in which researcher has personally contacted all the respondents and collected the data.

A. Population

The population of the present study includes the Schools Authorities, Students, Teachers and Parents of all 153 secondary schools of Jaipur city that have adopted the Student Information Management System in their respective schools.

B. Sampling

There were 20 schools in final selection of the schools for present study, so it consists a total sample of 20 school authorities, 200 teachers and 100 parents.

C. Tools and techniques

1. Background Information Form
2. Self-made Interview Schedules

D. Data Analysis

Looking to for the nature of the study the researcher has employed qualitative analysis. Further the results are extracted through percentage. Manual analysis was also done for the open-ended questions.

V. ANALYSIS AND INTERPRETATION

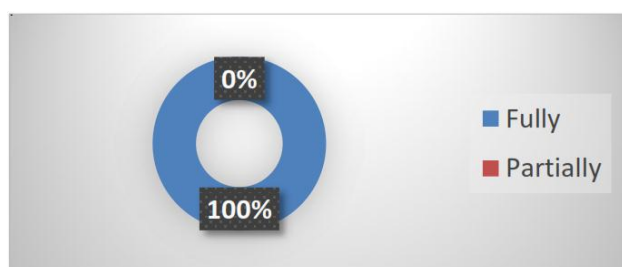
To initiate the data analysis, firstly the research will illustrate about the figures related to the respondents. In all, 20 secondary schools were visited under the study to collect the data where there was Student Information Management System available. Initially 38 schools had been contacted for the study through e-mail in which 24 schools have replied and finally 20 agreed for giving information. As described in the previous chapter that three interview schedules were used in the present study.

A. Implementation of Student Information Management System for Storage and Communication of Data

Table 1: Response Related to Implementation of SIMS

Item	Responses	
	Fully	Partially
To what extent SIMS is implementing in your school?	100% (20)	0% (0)

As far as the use, features and functions of Student Information Management System in the secondary schools of Jaipur city, It was notably found in the Table 1 that all the surveyed schools in the vicinity of Jaipur urban area that are currently using the Student Information Management System in one form or the other.



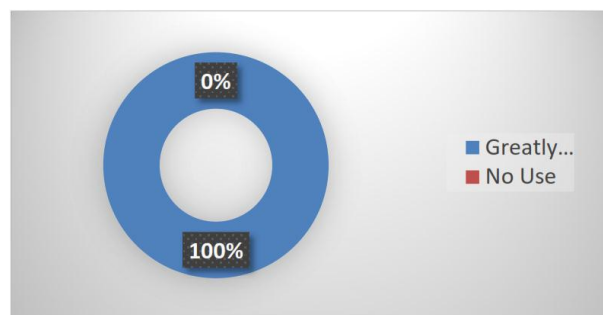
Graph 1: Response Related to Implementation of SIMS

B. Uses of Student Information Management System for the School Authorities of Secondary Schools of Jaipur City

Table 2: Response Related to Usefulness of SIMS

Item	Responses	
	Greatly Useful	No Use
How far the SIMS has been overcoming the defects of old stereotyped system of management?	100% (20)	0% (0)

It is clear from the Table 2 according to the School Authorities the SIMS is greatly useful for them.



Graph 2: Response Related to Usefulness of SIMS

Table 3: Benefits of Using SIMS

Item	Responses				
	Very time saving	Very easy way of communication	Helpful in continuous contact	Good to record all kind of data	Easy to use
What are the benefits of using Student Information Management System?	100% (20)	100% (20)	100% (20)	100% (20)	100% (20)

Table 3 shows that all of the surveyed schools admit that SIMS saves time, it is an easy way of communication, helpful in continuous contact, manages to keep all kind of data and easy to use.

Demir (2006) has conducted a research study on 'School Management Information Systems in Primary Schools' that supports the results of present study. Results indicated that although technologic infrastructures of elementary schools are insufficient, school management information systems have an important contribution to school management.



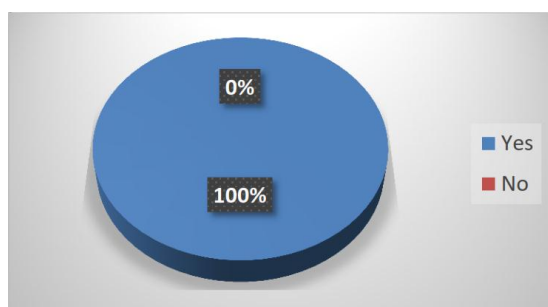
Graph 3: Benefits of Using SIMS

C. Teachers' Responses on Uses of Student Information Management System

Table 4: Response Related to the Use of SIMS for Daily Attendance of Students

Item	Responses	
	Yes	No
Do you use SIMS to record daily attendance of students?	100% (200)	0% (0)

Table 4 depicts that all of the teachers use SIMS to record daily attendance record of students. However, teachers maintain attendance record manually in class.



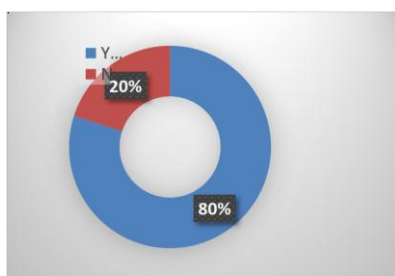
Graph 4: Response Related to the Use of SIMS for Daily Attendance of Students

D. Difficulties Faced by the School Authorities of Secondary Schools in Jaipur City

Table 5: Response Related to Provision for Separate Staff

Item	Responses	
	Yes	No
Do you have separate staff for the purpose of handling Student Information Management System?	80% (16)	20% (4)

Table 5 shows that 80 percent of the schools have separate staff for handling SIMS while 20 percent of the schools have deputed the regular administrative staff for handling SIMS as the old staff is trained.

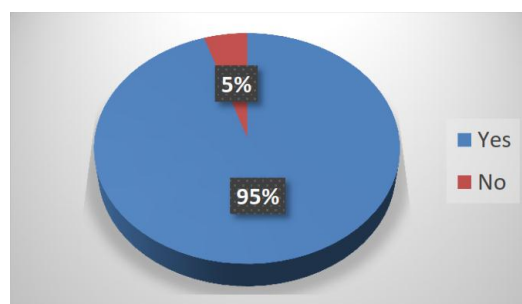


Graph 5: Response related to provision for separate staff

Table 6: Satisfaction with SIMS

Item	Responses	
	Yes	No
Are you satisfied with the Student Information Management System?	95% (19)	5% (1)

It is clear from the Table 6 that 95 percent of the schools are satisfied with the system while 5 percent of the schools are dissatisfied as SIMS should add more features to meet the expectations of multi stakeholders.



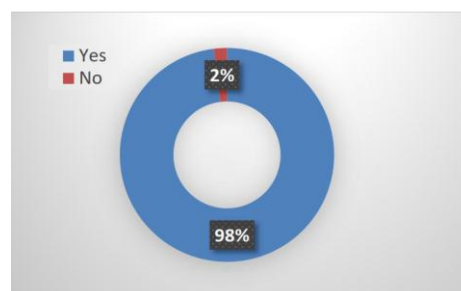
Graph 6: Satisfaction with SIMS

E. Difficulties Facing by the Parents of Children of Secondary Schools in Jaipur City

Table 7: Parents' Response to SIMS

Item	Responses	
	Yes	No
Are you comfortable with SIMS?	73% (73)	27% (27)

It is clear from the Table 7 that 73 percent of the parents are satisfied with the SIMS, while 27 percent of the parents are not satisfied with the SIMS. The reasons for their dissatisfaction are discussed in next table.



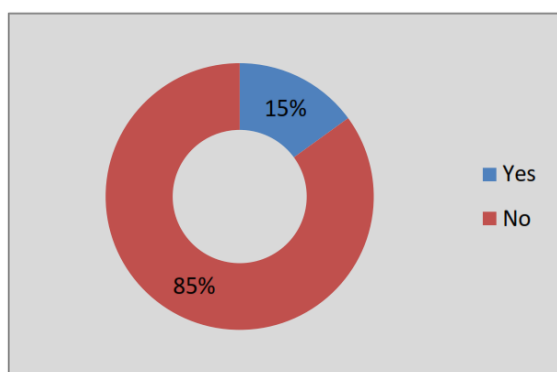
Graph 7: Parents' Response to SIMS

F. Response Related to Functioning of SIMS from Students

Table 8: Response Related to ID & Password Provided by School

Items	Response	
	Yes	No
Do you have ID and Password, provided by school to access SIMS?	15% (15)	85% (85)

Table 8 shows that 15 percent of the students are facilitated with ID and Password to login with SIMS, whereas 85 percent of students do not have any ID and Password provided by schools. It clearly indicates that majority of schools do not provide ID and password to students for communication purpose.



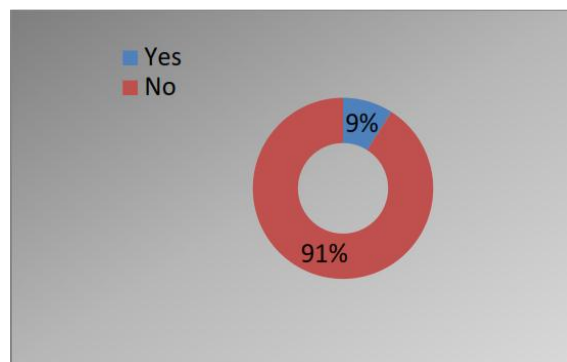
Graph 8: Response Related to ID & Password Provided by School

G. Response Related to Implementation of SIMS from Students

Table 9: Response Related to Views on Introduction of SIMS for Communication Purpose

Items	Response	
	Yes	No
Are you fully convinced about the introduction of SIMS for the communication purpose?	9% (9)	91% (91)

Table 9 shows that 9 percent of the students are fully satisfied with the SIMS for the communication purpose while 91 percent of the students are not convinced with the SIMS for communication purpose.



Graph 9: Response Related to Views on Introduction of SIMS for Communication Purpose

I. Response Related to Difficulties Faced by Students While Using SIMS

Table 10: Response related to difficulties faced while using SIMS

Items	Response			
	Affordability	Inadequate Technical Knowledge	One Way Communication	Unable to Submit Project/ Assignments
What kind of difficulties do you face while using SIMS?	9% (9)	17% (17)	100% (100)	97% (97)

VI. RESULTS AND DISCUSSIONS

Student Information Management System has been introduced in the schools of Jaipur city in the year 2008 and all the schools are still following using it. Student Information Management System is come out as very useful tool in comparison to the old manual system. Teachers mainly use Student Information Management System to send exam report to students. Though, they use is for other tasks as well, like, assignments, project work and disciplinary report. Most of the schools have separate staff to handle Student Information Management System. Majority of the stakeholders are satisfied with the use of Student Information Management System. Student Information Management System mainly stores data related to students profile, classroom attendance, laboratory experiments, sports activities, music classes, scouts, NCC, NSS etc.

VII. CONCLUSION

At present, Student Information Management System has been considered as an important area of research. Schools have adopted an automated school administration programme for schools, by building capacity for the implementation and deploy School Information Management System. In this study, the investigator tried to find out the functioning, implementation of Student Information

Management System in secondary schools of Jaipur city. An attempt has also been made to observe the views of the various stakeholders about SIMS. On analysis the perception of administrators about SMS, the researcher has concluded that SIMS has not completely fulfilled the expectation of administrator. The software ensures transparency in all the academic and nonacademic functioning of school. It further helps in managing and administrating school functioning and monitoring activities. It provides many benefits to different stakeholder viz. school administrators, teachers, students, parents. School authorities generally opt for free open source software (like moodle) available online. The implementation of open source software requires regular power supply and internet connection. So, the administrators have to ensure these requirements before opting for the open source software.

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