ST. MARY'S UNIVERSITY
SCHOOL OF GRADUATE STUDIES
DEPARTMENT OF PROJECT MANAGEMENT

CHALLENGES AND OPPORTUNITIES OF THE IMPLEMENTATION OF STUDENT INFORMATION SYSTEM: THE CASE OF ST. LIDETA HEALTH SCIENCE AND BUSINESS COLLEGE

BY:

TSIGE GOREMS

May 2024

Addis Ababa, Ethiopia

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A THESIS SUBMITTED TO ST. MARY'S UNIVERSITY, SCHOOL OF GRADUATE STUDIES IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR THE DEGREE OF MASTERS OF BUSINESS ADMINISTRATION

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ST. MARY'S UNIVERSITY
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Declaration

I, the undersigned declare that this thesis CHALLENGES AND OPPORTUNITIES OF THE IMPLEMENTATION OF STUDENT INFORMATION SYSTEM: THE CASE OF ST. LIDETA HEALTH SCIENCE AND BUSINESS COLLEGE is my original work. It has not been submitted for a degree in any other universities and all the materials used in this study have been duly acknowledged.

Tsige Gorems

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Endorsement

As thesis research advisor, I hereby certify that I have read and evaluated this thesis prepared, under my guidance, by Tsige Gorems entitled "CHALLENGES AND OPPORTUNITIES OF THE IMPLEMENTATION OF STUDENT INFORMATION SYSTEM: THE CASE OF ST. LIDETA HEALTH SCIENCE COLLEGE". I hereby recommend it to be submitted as fulfilling the thesis requirements

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Tsige Gorems

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Acronym

ICTs	College Information and Communication Technologies
MIS	Management Information Systems
SIS	Student Information Systems
SLHSBC	St. Lideta Health Sciences and Business Collage
SMIS	School Management Information Systems
SMS	School Management System

Abstract

This study aimed to investigate the challenges and opportunities surrounding the implementation of a Student Information System (SIS) at St. Lideta Health Science and Business College. The study used descriptive survey research design and a mixed research approach to achieve its objective. In addition, it has used both primary and secondary sources of data. The primary source of data was collected from students, instructors, management members, and supporting staff. The population of this study was 290. Since the population of this study is heterogeneous, the researcher divide entire population of the study into five strata based on their responsibility, roles and characteristics that they share namely management member, student, instructors, support staff and department heads and then stratified simple random sampling technique was used to select 168 participants. To collect data, the study used a questionnaire and an interview as a data collection instrument. The study used descriptive analysis to analyze the collected quantitative data and qualitative data obtained through interviews underwent thematic narration. Findings reveal concerns among instructors, supporting staff, and students regarding the accuracy, accessibility, and efficiency of updating student information, as well as integration of student information system. The finding also indicates staff resistance and dissatisfaction in providing training on how managing Student Information System. The study recommended comprehensive reviews of record-keeping procedures, implementation of user-friendly interfaces and staff training to enhance the effectiveness of SIS. In addition, to address challenges related to staff resistance, compatibility issues, and data security, the study recommended proactive change management strategies, stakeholder engagement, and robust security measures. The study also suggested for future research to assess SIS implementation across diverse educational contexts and conduct a comparative analysis of different SIS platforms.

Keywords: *Student Information System, Implementation, opportunities, Challenges*

CHAPTER ONE

INTRODUCTION

1.1. Background of the Study

Education system forms the backbone of every nation. It is one of the most powerful instruments for reducing poverty and inequality and lays a foundation for sustained economic growth. Advanced technology available today can play a crucial role in streamlining education-related processes to promote solidarity among students, teachers, parents and the school staff (Condie, Munro, Seagraves, & Kenesson, 2007).

The most initial school administrative computer applications started its development in the late 1970s. In the early1980s, several loose, non-integrated clerical and administrative applications were developed but these applications limited the possibilities for management support as the relationships among data could not be (Shah, 2014). During the initial stages the main purpose of software development and usage was to improve the efficiency of school office activities. The use of computers and technologies in educational institutes was mainly to store student and personnel data (Shah, 2014).

In any educational level, Management Information System (MIS) is essential to the learning and teaching process (Laudon & Laudon, 2017). Management Information System helps universities to keep records of students both past and present. According to Iwhiwhu (2005) and Arora (2006) management Information System is a system that employs the information required by institutions management in making operational, tactical and strategic decisions to ensure quality service delivery.

The value of management information was recognized during the integration stages. As a result, many projects were initiated by the governments in many developed countries that provided the stimulus to enter a higher development stage. These projects were directed toward the production of better school information systems which meant increased school efficiency and effectiveness. The focus was the development of a standard system for as many schools as possible with maximum flexibility. The professional approach to systems design was not widespread at this (Shah, 2014). In the 1990s, the emphasis on using ICT to collect educational data and to improve the administration of educational systems began to increase in the developing countries (Shah, 2014).

In any educational level, Management Information System is essential to the learning and teaching process (Laudon & Laudon, 2017). Many tertiary institutions in Ghana have seen the need for Management Information System (MIS).

School Management System (SMS) consists of tasks such as registering students, attendance record keeping, control absentees, producing report cards, producing official transcript, preparing timetable and producing different reports for teachers, parents and other stakeholders. Automation is the utilization of technology to replace human with a machine that can perform more quickly and more continuously (Al-Qaysi, Mohamad-Nordin, & Al-Emran, 2020). By automating SMS documents that took up many large storage rooms can be stored on few disks. Transcript images can be annotated. It reduces the time to retrieve old transcripts from hours to seconds.

The researcher of this study, who has worked at St. Lideta Health Science College for the past 1year to 8 months, has noticed challenges during the implementation of Student Information System in St. Lideta Health Science College, that were problematic for student and staff of the college. Therefore, there were need to know the challenges in order to establish sound data Student Information System practices. Thus, this study aimed to identify the challenges and opportunities in the implementation of Student Information System in St. Lideta Health Science College, Addis Ababa.

1.2. Statement of the Problem

O'brien and Marakas (2006) defined educational institutions management information systems as a management information system designed to match the structure, management task, instructional processes and special needs of the educational institutions. As for a broad definition, contributions of the information systems to educational institutions can be defined as making programs more effective, making the teaching process and the changes in learning environment professional, enabling teachers to exchange their experiences in a more systematic way, working in teams, determining the needs of the students, supporting the educational leaders and other staff in doing their duties, developing their performances, effectiveness and efficiencies (Gurr, 2000). Students are categorized as primary beneficiaries of education and therefore should be viewed as customers, argues Yeo (2008). The emphasis on continuous improvement is critical to the sustainability of high quality services which an educational institution provides to students.

Student Information System (SMS) literally means the general information systems for maintaining and providing student information (Iwhiwhu, 2005). It could be exists in all the schools, colleges, universities and any other education institutions, however, those information systems vary (Arora, 2006). One of the benefits of automated SMS is that the student record system will simplify retrieval of required information and is a great instrument for school improvement by taking measures from the information acquired (Udeze, Umoren, Oheri, & Attah, 2017).

Recent years, many SMIS/SIS were developed either by the universities or the software companies in order to partially automate many of the processes carried out by the department. Those developments dramatically reduce the time take in searching information and should enable the schools to maintain precise and up-to-date information (Ampofo, 2020).

African higher education institutions are at a stage where they are striving to improve their Information and Communication Technologies (ICTs) infrastructure, content, and skills; making resources available to meet the growing needs of students and faculty; and responding to the pressure for effectiveness. They are also confronted with a dilemma of turning ongoing ICTs initiatives into opportunities and understanding what ICTs mean to the transformation of higher education in general and to research, teaching, and learning (Adam, 2003). Simpson and Shaw (2023) study findings showed that the introduction of SEMS/SIS had a relatively smooth path at universities in South Africa. The complexity of maintaining high levels of data quality persists. However use of Student Information Management System is hampered by lack of resources in many African countries (Asogwa, 2012).

In Ethiopia, student information management system related issue was also studied. Among these, Gedifew (2015) studied the information management practices of Bahir Dar University; Genemo and Krishna (2016) assessed the Impact of ICT on Higher Education Institutions in Ethiopia and Semeon, Negash and Musa (2010) conducted a study entitled “The success of student information management system: The case of higher education institution in Ethiopia”.

However, there is a research gap, in Gedifew (2015) studies a clear gap was to be found, he did not particularly focus the student information management system and assessed in Bahir Dar University settings, having unique characteristics compared to private colleges

specifically SLHSBC. Regard Genemo and Krishna (2016) study, they aimed on the impact of ICT, not on SIS and the gap in Negash and Musa (2010) study was they focused in St. Mary's University which have different settings relative to SLHSBC.

The student researcher observed that in SLHSBC, there was a strong need to introduce a student management information system (SMIS) and partially used SMIS. Because of not fully implemented SMIS, SLHSBC are using paper based documentation system for performing various tasks. Thus the school administrators only used their experience in classes scheduling and courses (preparing the timetable), which wastes manpower and much time unnecessarily. With the increase of information, it is unwise to adopting the traditional paper based system which is slow to access and therefore, inefficient.

Among the reason not used SMIS in SLHSBC was being busy with other/unfinished business outside of normal work, not allocating manpower for software work, delaying the provision of necessary resources to the work of updating the registrar and slow internet speed. Given the importance of the SIS to SLHSBC, this study was close the above research gaps and examine the challenges and opportunities of the implementation of student information system: in St. Lideta Health Science and Business College , Addis Ababa.

1.3. Basic Research Questions

Towards the attainment of the purpose of the study, the research was directed to answer the following:

1. How does St. Lideta Health Science and business College manage student information?
2. What are the opportunities for the implementation of Student Information System (SIS) at St. Lideta Health Science and Business College?
3. What are the challenges in the implementation of Student Information System (SIS) at St. Lideta Health Science and Business College?

1.4. Objective of the Study

1.4.1. General Objective of the Study

The main objective of this study is to assess challenges and opportunities of the implementation of student information system in St. Lideta Health Science College.

1.4.2. Specific Objectives

1. To asses St. Lideta Health Science and business College manage student information
2. To examine the opportunities for the implementation of Student Information System (SIS) at St. Lideta Health Science and business College
3. To identify the challenges during the implementation of Student Information System (SIS) at St. Lideta Health Science College

1.5. Significance of the Study

This study is beneficial to various stakeholders. First, it would shares experience of measuring the success of SIS in the context of private higher education institutions in Ethiopia. Second, it would indicate the management of SLHSBC which factors can become dominant in the implementation of a SIS. Third, the identification of success factors would help the top management to focus on these factors and make the necessary interventions. Fourth, it would open an opportunity and lessons learned for further research in the area. In general, this would be both a theoretical and practical contribution to the field of SIS success when implemented in HEIs, in particular private HEI in Ethiopia.

1.6. Scope of the Study

The study was delimited to assess the challenges and opportunities of the implementation of student information system in St. Lideta Health Science College, Addis Ababa. But to make the study manageable, conceptually, geographically and methodologically its scope was delimited as follow:

Conceptual scope: The study only aimed on the factors that can affect the implementation of student information system. In addition, it examined the opportunities for the implementation of student information system in St. Lideta Health Science College.

Geographic scope: This study was only focused on St. Lideta Health Science College, which is located in Addis Ababa.

Methodologically scope: Methodologically this study used a mixed research approach and used a descriptive survey research design. In terms of sampling technique, it used stratified and simple random sampling technique. Related to data collection tools, it employed questionnaire and interview as data collecting tools. In addition to that the

researcher employed descriptive data analysis statistical tools and qualitative data gather through interviews were narrated thematically.

1.7. Limitations of the Study

This study faced some limitation. One notable limitation encountered during data collection was the delay in the return of distributed questionnaires. Many participants, including students and administrative staff, were either too occupied with their academic and professional responsibilities or simply procrastinated, leading to a prolonged data collection period. This delay not only slowed the overall progress of the research but also introduced the risk of reduced response rates.

Another related issue was the inconsistent follow-up process due to these delays. Researchers had to spend additional time and resources reminding participants to complete and return the questionnaires.

1.8. Definition of Terms

Student Information System (SIS): A comprehensive software platform designed to collect, store, manage, and disseminate student-related data and information within an educational institution, facilitating administrative processes and supporting academic operations (Marcel & Faustin, 2019).

Administrative Efficiency: The degree to which the Student Information System (SIS) streamlines administrative tasks, such as enrollment, registration, grading, and reporting, reducing manual effort, minimizing errors, and optimizing resource utilization (Bandara, Chand, Chircu, Hintringer, & Karagiannis, 2010).

Data Accessibility: The extent to which authorized users can easily retrieve and access student data stored within the Student Information System (SIS), ensuring timely and accurate information retrieval for administrative, academic, and decision-making purposes (Laudon & Laudon, 2015).

1.9. Organization of the Study

The study was organized into five chapters. The first chapter contained an introductory part of the study which consisted of background of the study, statement of the problem, objective of the study, research question, definition terms, limitation and scope of the study. The second chapter dealt with related literature review of the study. The third chapter was

about methodology of the study. Chapter four analyzed the data and presented the findings. The last chapter contained the summary of findings, conclusions, limitations, and recommendations.

CHAPTER TWO

RELATED REVIEW OF LITERATURE

In this chapter, the researcher presents review of related literature by categorizing them in to two sections. The first section deals the theoretical review and the second section presents the empirical review from previous related works.

2.1. Theoretical Review

2.1.1. Definitions and Concepts of Student Information System

2.1.1.1. Information System

As Rainer, Prince, Watson, Chircu, and Marabelli, (2019) stated, at the most fundamental level, Information Systems (IS) include people, procedures, data, software, and hardware (by degree) that are used to gather and analyze information. Specifically computer-based information systems are complementary networks of hardware and software that people and organizations use to collect, filter and process, create and distribute data.

An information system (IS) is a formal, sociotechnical, organizational system designed to collect, process, store, and distribute information. (Piccoli & Pigni, 2019) .From a sociotechnical perspective, information systems are composed by four components: task, people, structure (or roles), and technology (Zwass, 2023).

Information systems can be defined as an integration of components for collection, storage and processing of data of which the data is used to provide information, contribute to knowledge as well as digital products that facilitate decision making.[3]

Wikipedia's (2023) definition "*Information Systems (IS) is an academic/professional discipline bridging the business field and the well-defined computer science field*".

Laudon and Laudon (2015) described an information system "as a set of interrelated components that collect (or retrieve), process, store, and distribute information to support decision-making and control in an organization."

2.1.1.2. Student Information System

According to Trček, Trobec, Pavešić, and Tasič, (2007), a Student Information System (SIS) is a software application for educational establishments to manage student data. A

student information system allows you to enter student test scores and other assessments through an electronic gradebook, create student schedules, track student attendance, and manage many other student-related data requirements at school. your college or university. These systems vary in size, scope, and functionality, from packages deployed in relatively small organizations containing only student records to enterprise-level solutions designed to encompass various aspects of managing large organizations with more many campuses, with local responsibilities.

Most student information systems in use today are server-based, with the software residing on a central computer server and accessed through client applications located at various locations inside and outside the school (Obasi, Nwachukwu, & Ugwu, 2013).

SMIS, also known as Student Information System, Educational Information System, Student Management System, Academic Management System or Student Management System, is "*a management information system adapted to the structure, management tasks, processes of learning and the special needs of students in the school*." (Laudon & Laudon, 2017).

A student information system (SIS) is actually a software solution that allows educational institutions to digitize and manage student information more efficiently. A student information system (SIS), student management system, school administration software or student administration system is a management information system for education sector establishments used to manage student data (Wikipedia contributors., 2023).

2.1.2. Components of a Student Information System (SIS)

A Student Information System (SIS) includes many functions, including student record keeping, attendance and discipline, homework and transcripts, report cards and transcripts, immunizations, permits, medical clearance, human resource management, file management, recording parent meetings , class schedule, and more (Udeze, Umoren, Oheri, & Attah, 2017).

There are components, GPA, Awards, Honors and Student Scoreboard. Other SSC-related modules include Admissions, Student Finance and Accounting, Registration, Fundraising/Development, Website, Canteen/Lunch Management, and Summer School/Camp Registration (Udeze, Umoren, Oheri, & Attah, 2017).

2.1.3. Benefits of the Student Information System

In the early 2000s, more and more customers were using computer systems to manage their daily operations. Overall: Gain competitive advantage by targeting strategies that improve management efficiency through information processing and support continuous student assessment. In particular, it facilitates formative and summative assessment, manages learning processes, changes in the educational environment, and identifies student needs (Heath, Maghrabi, & Carr, 2015).

In many cases, SMIS is used to simplify or automate routine administrative tasks in the classroom, such as recording attendance and communicating with parents (Schildkamp, 2019). From a strategic perspective, SMPs help administrators set school goals, develop long-term plans, allocate resources, develop future teaching methods, and evaluate teacher performance and school outcomes (Shah, 2014). Schools use SMIS to make decisions such as placing students in courses and programs at the high school and middle school levels (Schildkamp, 2019).

School management information systems are also useful for increasing administrative efficiency and reducing teacher workload by digitizing data, facilitating communication between teachers, administrators, parents and other stakeholders, and providing easy access to student performance data (Shah, 2014). According to Wayman (Shah, 2014), a detailed understanding of each student's developmental history will allow for better discussion of information with parents, and teachers will be able to discuss student developmental progress and teaching strategies with themselves and school leaders.

Kaya and Azaltun (2012) found that communication and information sharing between stakeholders lead to more effective decisions. The SMIS can provide teachers with information about students' non-cognitive skills related to persistence, motivation, self-efficacy, and resilience. These soft skills may not be directly related to academics or grades, but they are still important to a student's overall performance.

2.1.4. Factors that hinder SIS implementation

Despite the vast availability of desired features, functions, and valuable uses for school management information systems, literature suggests listed that several factors inhibit to use it.

According to Shah (2014), several challenges to SMIS use in educational management are apparent in the literature, including low self-efficacy, lack of timely information, limited coaching and preparation, the absence of executive support, and the paucity of technical assistance. New (2016) supported this concept by highlighted several major inhibitors in SMIS data for effective decision-making in schools including inadequate teacher training, flawed data infrastructure, and privacy fears.

As pointed out in Wong (2015), user attitudes also inhibit the success of school management information systems. Users' concerns about the linkage of the system to accountability policies, testing systems, and the processes of the curriculum may lead to opposition. As teachers often feel reliance on evidence-based practices reduces their autonomy, or that data will be used to punish them.

2.2. Empirical Review

Different scholars and researchers have conducted studies with regard to factors affecting Student Information Systems..

Nurhidayah and Muliansyah (2023) conducted study entitled "Management Information Systems and their impact on productivity in higher education institutions", it aims to explore the relevance of MIS in improving educational administration and evaluates ways to improve MIS data processing, storage and analysis capabilities. They used stratified and purposive sampling as sample strategies and utilized questionnaire and an observational program for data collection instrument. The study revealed that SIS has a positive impact on school administration and management. It improved information accessibility, it reduced workload, better time management, and it improved report quality. According to their study result, the key barriers militating against the introduction of MIS in understudy institutions were cost, a lack of competent Information Technology people to administer the system, a shortage of computer systems and peripherals, and an inferiority mentality (technology phobia).

Alshamsi, Kassim and Salamzadeh (2023) study the Factors Influencing the Intention to Use Educational Management Information Systems (EMIS): Insights from Private Universities in the UAE. Since then, private universities in the UAE have struggled to manage their information systems. This study aims to investigate the factors that influence the intention to use EMIS among the management of private universities in the United Arab

Emirates. The study used correlational research, and quantitative, combined with a survey. They gathered data through questionnaires and employed non-probability sampling. In addition, this study used IBM SPSS.25, important and widely used software packages, for data analysis. The study pointed out that successful organizations rely mainly on human capital, skills, and talent to succeed in improving their performance that is derived by the sufficient detailed information, which is the result of using EMIS. Thus, gaining information, processing, and storing it, is an important stage in improving efficiency and functionality that are related to the internal aspects of the organization.

Brahmasari and Panjaitan (2017) examined the Influence of Using Academic Information System on Private University Image and Its Impact to Competitive Advantage. The population in their research was students who are at least in the second year and come from private universities that have used academic information system. This study used structural Equation Modeling (SEM) with AMOS version 22 as tools in analyzing data. The results of research drawn based on hypothesis analysis and some tests have shown that academic information systems have a significant direct and indirect impact on the image of private universities in the Kepulauan-Riau region, which helps their competitive advantage. They showed that by using Academic Information System, the students were very helpful in lecture activities because it provides a good assessment on the college which will finally give good appraisal of the advantage of private universities.

Zain, Atan, and Idrus (2004) investigated the impact of ICT on management practices in smart schools in Malaysia. The review revealed several positive changes, including the strengthening of ICT culture in schools, improved access to information, improved management efficiency and better use of school resources. Challenges faced by the participating schools were related to lack of time, high administrative costs, negative acceptance/support of untrained staff, inappropriate use of ICT tools and strict procedural requirements.

Gedifew (2015) studied the importance of information management systems in Bahir Dar University. However, studies had not been conducted on the functioning of this system. He collected the information using semi-structured interviews and focus group discussion was analyzed using thematic analysis. The result revealed that apart from achievements made, lack of required resources, the centralized nature of the system, poor culture of the academic staff in meeting deadlines stipulated in the system, and lack of adequate computer skills on

the part of the users were the major challenges encountered in the implementation of the existing student information management system, which has not yet been implemented in managing the information of distance, summer, extension, and graduate program students. Worst of all, this practice was not extended to the library and other administrative core processes. Hence, the University should revisit the functioning of its student information management system, and also take initiatives in automating the information management systems of the other administrative core processes.

2.3. Knowledge gap

Despite the positive impact of Student Information Systems (SIS) highlighted in various empirical studies, significant knowledge gaps remain in understanding the specific challenges and opportunities related to SIS implementation in different educational contexts. Nurhidayah and Muliansyah (2023) identified critical barriers such as high costs, lack of competent IT personnel, and technology phobia, which hinder the effective deployment of MIS in educational institutions. While these insights are valuable, they focus predominantly on general MIS implementation rather than the nuanced challenges faced specifically by health science colleges like St. Lideta Health Science and Business College. Furthermore, their study does not delve deeply into the specific infrastructural and cultural factors that might affect SIS adoption in a specialized institution. This creates a gap in understanding how such barriers manifest in environments with distinct educational requirements and administrative structures.

Similarly, while Alshamsi, Kassim, and Salamzadeh (2023) emphasized the importance of human capital and detailed information processing in enhancing the efficiency of EMIS in private universities, their findings may not be directly transferrable to public health science colleges. The unique administrative and operational dynamics of health science colleges, including specific regulatory requirements and the integration of clinical training components, are not addressed in their study. This omission highlights a critical gap in the literature regarding the specific challenges and opportunities that health science colleges might encounter during SIS implementation. Understanding these unique aspects is crucial for tailoring SIS solutions that not only manage student information efficiently but also support the specialized educational and administrative needs of health science colleges.

2.4. Conceptual framework

The conceptual framework, showed in Figure 2.1, provides a structured approach to understanding the factors influencing the implementation of an SIS at St. Lideta Health Science and Business College.

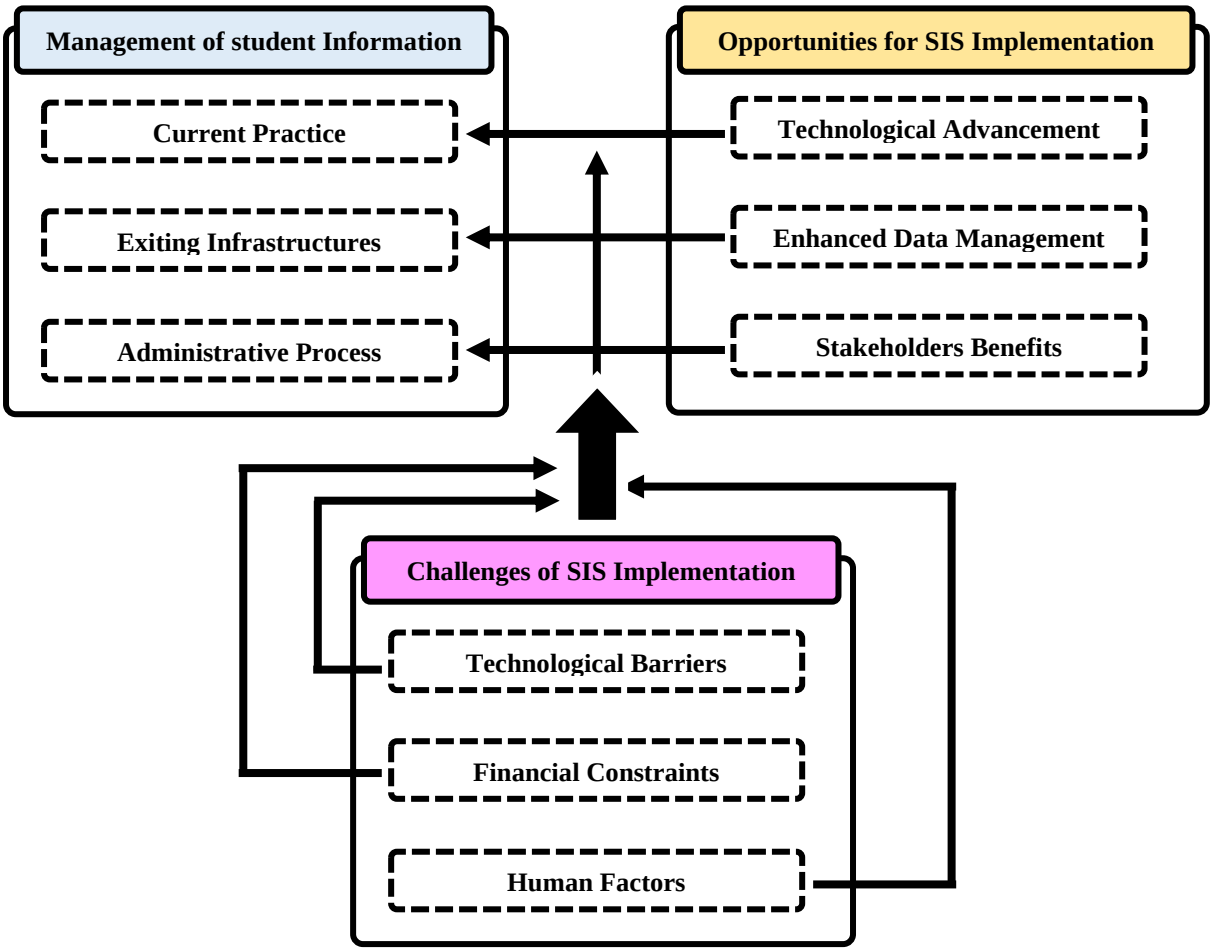

Figure 2.1: Conceptual framework of the study

Source: Adopted from Alkarney and Albraithen (2018)

By assessing current management practices, identifying opportunities, and addressing challenges, the college can strategically plan and execute the adoption of an effective SIS to enhance its administrative capabilities and improve the overall educational experience.

Management of Student Information

Effective management of student information is foundational for any educational institution. At St. Lideta Health Science and Business College, understanding the current practices, existing infrastructure, and administrative processes is crucial. This includes

identifying any inefficiencies, data inaccuracies, and areas where manual processes can be automated. A thorough assessment of these aspects provides a baseline from which improvements can be measured.

Opportunities for SIS Implementation

Implementing an SIS offers numerous opportunities for the college. Technological advancements can streamline data management, making it easier to handle large volumes of student information (Berman, 2013). Enhanced data management capabilities allow for better analytics and reporting, which can inform strategic decisions. Moreover, the benefits to stakeholders—students, faculty, and staff—include more efficient processes, improved access to information, and a better overall experience (Brahmasari & Panjaitan, 2017). These opportunities highlight the potential for significant improvements in both operational efficiency and educational outcomes.

Challenges in SIS Implementation

However, implementing an SIS is not without challenges. Technological barriers such as system compatibility and data migration must be addressed to ensure a smooth transition (Asogwa, 2012). Financial constraints can also pose significant hurdles, particularly in securing the necessary budget for implementation and ongoing maintenance. Human factors, including resistance to change and the need for comprehensive training are critical to successful adoption (Heath, Maghrabi, & Carr, 2015). Additionally, organizational issues like leadership support and effective change management play a crucial role in aligning stakeholders and driving the implementation process forward.

By considering both the opportunities and challenges outlined in this conceptual framework, St. Lideta Health Science and Business College can develop a strategic plan for the effective implementation of a Student Information System. This plan aimed to leverage technological advancements, enhance data management, and maximize stakeholder benefits while addressing the technological, financial, human, and organizational challenges that may arise.

CHAPTER THREE

RESEARCH METHODOLOGY

The research methodology highlights how the research will achieve. The steps towards realizing the needed information for the study will explain in detail. In the following sections it presents the research design and approach, target population, samples size, data collecting tools, source of data, data analysis methods, and ethical considerations used in the study.

3.1. Description of the Study Area

St. Lideta Health Sciences and Business College (SLHSBC) was established in 1997 E.C with the decree of "Training Health Professionals", in consideration of the general directive set for Ethiopian Higher Education Institutions (the Higher Education Proclamation No.351/2003) which comprises: Producing skilled human power relevant to development and growth needs of the country; Undertaking study and research directed at addressing the priority problems of the country and disseminating results thereof, and Provision of appropriate professional and technical services to the community.

St. Lideta College of Health Science that became St. Lideta Health Sciences and Business College has leaned toward a future based on innovation, excellence and response to student and public needs since its inception. SLHSBCis aiming to do more by providing quality health care, conducting research, disseminating findings and enlightening policy for the betterment of healthcare in Ethiopia.

Vision: "We aspire to see St. Lideta College of Health Science and Business be one of the Top 10 higher education institutions in the country as a center of Academic Excellence and reliable community service provider by the year 2025".

Mission: "To produce morally and technically capable health care and business professionals, and to provide community-centered services through quality education, value-adding research and impacting consultancy that contributes to sustainable development needs of Ethiopian people".

3.2. Research Design

Research design is a logical work plan that highlights the flow of the work until the completion of the project (Marczyk, DeMatteo, & Festinger, 2005). As the objectives of

this research is to assess challenges and opportunities of the implementation of student information system in St. Lideta Health Science College. To this end, the researcher used a descriptive research design. Descriptive research design involves observing, interpreting, describing and analyzing the behavior of a subject without influencing it in any way (Patton, 2002). This research design has an advantage of producing good amount of responses from a wide range of people. At the same time, it provides a more accurate picture of events at a point in time. According to Sekaran (2003) descriptive design describes and provides understanding of a phenomenon usually with simple descriptive statistics. Further Kothari (2004) explained the descriptive survey method is useful for investigating a variety of social problems including assessment of attitudes, opinions, demographic information, conditions and procedures; and that descriptive data are usually collected through questionnaire, interview or observation.

3.3. Research Approach

In conducting a research, researchers follow different research approaches. According to Kothari (2004) there are two basic approaches to research; the quantitative approach and the qualitative approach. The quantitative research approach involves the generation of data in quantitative form which can be subjected to rigorous quantitative analysis in a formal and rigid fashion, while qualitative approach to research is concerned with subjective assessment of attitudes, opinions and behavior. With regard to research approach, quantitative research method is considered to be very efficient for questions answered in number (Creswell, 2009). Moreover, the outcome of quantitative research is easy to measure and the results can be clearly shown through objective data. Therefore, in this study the researcher used mixed approach (both quantitative and qualitative approach) to study the assess challenges and opportunities of the implementation of student information system in St. Lideta Health Science College.

3.4. Source of Data

All the necessary data required for the study was obtained both from primary and secondary sources to assess challenges and opportunities of the implementation of student information system in St. Lideta Health Science College.

3.4.1. Primary Source of Data

The primary data was entirely collected from management, employees and students of St. Lideta Health Science and business College through questionnaire and interview. Using primary data in research helps to grasp the necessary data that is intended to infer about the current understanding of the phenomenon.

3.4.2. Secondary Source of Data

Secondary data means data that are already available and refer to the data which have already been collected and analyzed by someone else (Kothari, 2004). The secondary data was collected from reports and procedures of St. Lideta Health Science College, published and unpublished journals, books, magazines, research reports and newspapers.

3.5. Population of the Study

The target population of this study was employees of St. Lideta Health Science College, Addis Ababa.

Table 3.1: Population of the study

Groups	*N*	%
Management	5	1.72
Students	201	69.31
Instructors	15	5.17
Support Staff	63	21.72
Department Heads	6	2.07
Total	**290**	100.0

Source: St. Lideta Health Science and Business College Human Capital Department (2023)

According to the 2022/23 annual report of the St. Lideta Health Science and Business College, there are 5(1.72%) management members, 201(69.31%) students, 15(5.17%) instructors, 63(21.72%) supporting staff and 6(2.07%) department heads. Thus the target population of this study is 290.

3.6. Sample and Sampling Procedures

According to Lavrakas (2008) a sample size is a smaller set of the larger population. Determining sample size is a very important issue for collecting an accurate result within a quantitative research design. The sample size was determined using sample size determining formula (Yamane, 1967).

$$n = \frac{N}{(1+e^2 N)}$$

Where: n is sample size, N is target population and e is the precision level. The population of the employees is 290, N = 290and with the precision level of ±5%, thus e = 0.05. Therefore the sample size (n) was calculated as:

$$n = \frac{N}{(1+e^2 N)} = \frac{290}{(1+0.05^2 \times 290)} = 168.11 \approx 168$$

The sample size of this study was 168. Since the population of this study is heterogeneous, the researcher divide entire population of the study into five groups called strata based on their responsibility, roles and characteristics that they share namely management member, student, instructors, support staff and department heads as indicated in Table 3.2.

Table 3.2: Sample size of the study

Groups	Population	Strata Sample Size	Sample Size and Percentile
Management	5	5 × (168/290) ≈ 3	3 (1.79%)
Students	201	201 × (168/290) ≈ 116	116 (69.05%)
Instructors	15	15 × (168/290) ≈ 9	9 (5.36%)
Support Staff	63	63 × (168/290) ≈ 36	36 (21.43%)
Department Heads	6	6 × (168/290) ≈ 4	4 (2.38%)
Total	**290**		**168 (57.93%)**

Source: St. Lideta Health Science and business College Human Capital Department (2023)

As shown in Table 3.2, after the strata sample size computed, the researcher used simple random sampling in each stratum to select the survey participants. Thus 3 (1.79%) from management member, 116 (69.05%) from students, 9 (5.36%) from instructors, 36 (21.43%) from supporting staff and 4 (2.38%) from department heads were selected.

3.7. Data Collection Tools

As mentioned above quantitative and qualitative data were collected for this study, thus in order to achieve the purpose of this study questionnaire and interview were utilize for collection of data.

3.7.1. Questionnaire

The questionnaire used to collect data from students, instructors, and supporting staff. To achieve the objective of this study, the researcher used three types of questionnaires to collect data in a study area.

The questionnaire was structured into four distinct parts to comprehensively gather data and insights. Part 1 consisted of five closed-ended questions aimed at collecting background information about the participants. These questions likely covered demographic details such as age, gender, education level, years of experience, and possibly other relevant information to provide context for the subsequent sections of the questionnaire. Part two, three and four of both questionnaires were comprises of eight closed-ended questions in five point Likert scale, ranging from "strongly disagree" to "strongly agree", aimed at collecting data about St. Lideta Health Science College's management of student information practice, opportunities and challenges. In addition, Part three of both questionnaires had three open-ended questions that used respondents to express their view on the challenges in their own words.

3.7.2. Interview

On the other hand, interview used to collect data from management and department heads. Two types of interview guiding questions, comprise of six semi-structured questions, were prepared in English language. Employing semi-structured questions in interviews offers several advantages. Firstly, they provide a framework that ensures consistency across interviews while still allowing for flexibility and spontaneity in responses. This consistency aids in the comparability of data gathered from different participants, enhancing the reliability of the study. Secondly, semi-structured questions strike a balance between providing guidance to the interviewer and allowing room for participants to express themselves freely. This can lead to richer and more detailed responses, as participants feel encouraged to elaborate on their experiences and perspectives. Additionally, semi-structured questions allow for the exploration of unexpected topics or insights that may arise during the interview, fostering a more dynamic and insightful data collection process.

3.8. Methods of Data Analysis

The quantitative data gathered from respondents underwent encoding into computer programs specialized for data processing, specifically MS-Excel and Statistical Package for

Social Sciences (SPSS) version 27. Subsequently, this encoded data underwent analysis utilizing descriptive statistics, including percentage, frequency, mean, and standard deviation. Descriptive statistics serve a crucial role in data visualization, facilitating the presentation of data in a manner that is both meaningful and comprehensible. This enables researchers and stakeholders to interpret the dataset with relative ease, as highlighted by Creswell (2009). Through descriptive statistics, complex datasets are simplified, enhancing understanding and aiding decision-making processes. Furthermore, qualitative data obtained through interviews underwent thematic narration. Thematic narration involves the identification and exploration of recurring themes or patterns within qualitative data, providing valuable insights into the underlying phenomena being studied. By narrating qualitative data thematically, researchers can distill rich and nuanced information into coherent and interpretable narratives, thereby deepening understanding and contributing to the overall findings of the study. This dual approach, incorporating both quantitative and qualitative data analysis methods, ensures a comprehensive and robust exploration of the research questions at hand, enriching the depth and breadth of the study's findings.

3.9. Reliability and Validity of the instrument

According to Sekaran (2003), reliability refers to the extent that the instrument yields the same results over multiple trials. Validity refers to the extent that the instrument measures what it was designed to measure. To this end the researcher measured the reliability and validity of the instrument as presented in the sections below.

3.9.1. Reliability of the Instrument

As Kothari (2004) stated reliability of the research instrument needs to check the extent to which the instrument yields the same results on repeated measures. It also helped to ensure that the respondents understand what the questionnaire wants to address and was done with the objectives of checking whether or not the items contained in the instruments could enable the researcher to gather relevant information.

The student researcher used Cronbach's alpha coefficient as the indicator to check the degree of consistency of the instrument. To this end pilot testing was conducted in Medco Bio Medical College Main Campus which is similar to St. Lideta Health Science and business College and not included in the sample study. The draft questionnaires were distributed to six instructors, 20 supporting staffs and 20 students selected using random

sampling. After the questionnaires were filled and returned, the reliability of items was measured by using Cronbach's alpha method.

Table 3.3: Reliability Statistics

Items	Variables	Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
Implementation	Instructors	.920	.926	8
	Supporting Staffs	.867	.868	7
	Students	.884	.883	7
Opportunities	Instructors	.922	.927	7
	Supporting Staffs	.864	.865	7
	Students	.866	.865	7
Challenges	Instructors	.943	.940	8
	Supporting Staffs	.902	.902	8
	Students	.818	.818	7

Source: Survey data, 2024

As Table 3.3 indicates the all Cranach's alpha value of the instrument found greater than 0.7. According to Gay, et al, (2009) who suggest that, the Cranach's alpha results > 0.7 is acceptable. Thus one can be conclude that all the items in this study are consistent and reliable.

3.9.2. Validity of the Instrument

Validity is often defined as the extent to which an instrument measures what it asserts to measure (Blumberg, Cooper, & Schindler, 2005). It is the degree to which the results are truthful. So that it requires research instrument (questionnaire and interview guiding questions) to correctly measure the concepts under the study (Pallant, 2011). To validate the contents of the instrument, the researcher sent the questionnaire and interview guiding questions, in addition to my advisor, for my work colleagues, she was the HR department head in my organization, to comment on the contents and the measurement incorporated. She and my advisor commented on some of the contents and then corrections were made on the commented contents.

3.10. Ethical Issues

The researcher has given emphasis to the ethical issues in every aspect of this study that demands it. The participants were selected based on their consent/free will and their freedom to withdraw from participation were provided. When the questionnaires distribute

to the respondents and before interview conducted, respondents had been informed and guaranteed that the information they provide will be confidential and used only for academic purpose. Moreover, a statement conforms to the prohibition of disclosing identity detail or personal reference in the questionnaire. This helped to avoid any biased responses or unauthentic data provided by respondents and to make participants feel safe in filling the questionnaire. Therefore, the collected data was kept and not used for any personal interest. Generally, the whole process of the study was conducted within the frame of acceptable professional ethics. In addition, the researcher used literature reviews without plagiarism, courtesy and high professional standards through scientific process.

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CHAPTER FOUR

DATA PRESENTATION, ANALYSIS & DISCUSSION OF FINDING

This chapter focuses on the presentation, analysis, and interpretation of the data obtained using a variety of tools. The chapter was primarily divided into five sections. The first and second sections discuss the respondents' response rates and backgrounds, while the remaining sections analyze the study's findings in relation to its primary research questions.

4.1. Response Rate

The total response rate of 95.24% indicates a robust level of engagement with the data collection instruments, comprising questionnaires and interviews. With 161 questionnaires distributed and 154 returned, alongside 7 interviews six were conducted, the high return rates demonstrate a sufficient level of participation for reliable data analysis and interpretation.

Table 4.1: Rate of response

Instruments	Distributed/ To be conducted	Returned/conducted	Returned/conducted in %
Questionnaire	161	154	95.65
Interview	7	6	85.71
Total	**168**	**160**	**95.24**

Source: Survey, 2024

The total response rate of 95.24% indicates a robust level of engagement with the data collection instruments, comprising questionnaires and interviews. With 161 questionnaires distributed and 154 returned, alongside 7 interviews six were conducted, the high return rates demonstrate a sufficient level of participation for reliable data analysis and interpretation. While the questionnaire response rate stands at an impressive 95.65%, the slightly lower return rate of 85.71% for interviews. Morton, Bandara, Robinson and Carr (2012), suggested above 90% response rate is the acceptable response rate in research. In this study the response rate was still falls within an acceptable range, ensuring a comprehensive understanding of the research subject. This level of response provides a solid foundation for drawing meaningful conclusions and insights from the gathered data, thus enhancing the reliability and validity of the research findings.

4.2. Demographic Characteristics of respondents

This section presents the demographic characteristics respondent, first from St. Lideta Health Science and business College staffs then students of the college. Demographic characteristics respondents (Work position, Age, Gender, Educational level and Experience and so on) were not considered as factor variable for this study however it helps to show the composition of the respondents that were included in this study.

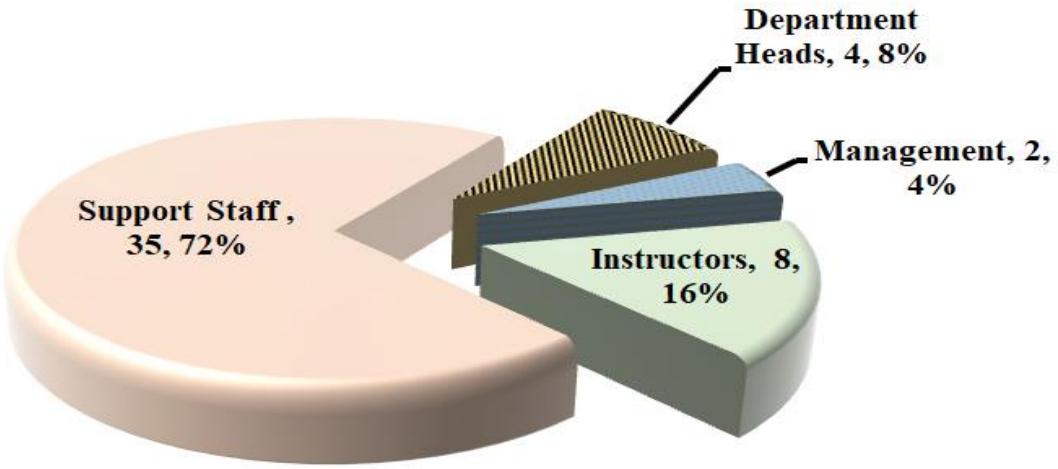

Figure 4.1: Work Position of St. Lideta Health Science and business College respondents

Source: Survey, 2024

In Figure 4.1, the work position distribution among respondents at St. Lideta Health Science and business College showcases a predominant presence of support staff, constituting 71.43% of the total respondents, followed by instructors at 16.33%. Management and department heads make up smaller proportions at 4.08% and 8.16%, respectively. This suggests that the college primarily relies on a robust support staff framework to facilitate its operations, with instructors and department heads playing integral roles in the academic and administrative realms, albeit in comparatively smaller numbers.

As indicated in Table 4.2, the gender distribution among respondents across different roles shows variations that may have implications for understanding and addressing challenges and opportunities related to the student information system implementation. While females comprise the majority of respondents across all roles, ranging from 63.27% to 100%, the proportion of males varies. For instance, in Management, males represent 36.73% of respondents, whereas in Instructors, they account for only 21.74%. These gender disparities

could influence perspectives on technology adoption, administrative processes, and organizational dynamics, highlighting the importance of gender-sensitive approaches in addressing potential barriers and maximizing opportunities for system integration.

Table 4.2: Characteristics of SLHSBC staffs respondents

Variables	**Groups**	Instructors	Support Staff	Department Heads	Management	Total	
		N	**N**	**N**	**N**	**N**	**%**
Gender	Male	5	11	1	1	18	36.73
	Female	3	24	3	1	31	63.27
Age	Below 25	0	4	0	0	4	8.16
	25 – 35	0	6	0	0	6	12.24
	36 - 45	6	23	2	0	31	63.27
	46 - 55	2	2	2	1	7	14.29
	Above 55	0	0	0	1	1	2.04
Educational Level	Diploma	0	4	0	0	4	8.16
	First Degree	1	29	0	0	30	61.22
	Master's Degree	7	2	4	1	14	28.57
	PhD	0	0	0	1	1	2.04
Years of Service	Below 5years	1	5			6	12.24
	6 -10years	4	28	1		33	67.35
	Above 10years	3	2	3	2	10	20.41

Source: Survey, 2024

The age distribution of respondents within each role reflects diverse perspectives and experiences that could shape the assessment of challenges and opportunities associated with the student information system implementation. While the majority of respondents fall within the 36-45 age groups across all roles, variations exist in the representation of younger and older age cohorts. For instance, Instructors have a higher proportion of respondents aged 46-55 (28.57%) compared to Support Staff (4.55%). This age diversity may influence perceptions of technology use, change management strategies, and training needs, emphasizing the importance of age-sensitive approaches in designing implementation strategies that cater to the preferences and capabilities of different age groups.

In the third item of Table 4.2, the results depict the distribution of educational levels among different groups within the institution, revealing notable variations. While support staff

primarily holds first degrees, with 29 individuals representing 61.22% of the group, instructors predominantly possess master's degrees, constituting 28.57% of the total instructors surveyed. Conversely, department heads are more evenly distributed across educational levels, with a substantial proportion holding master's degrees (4 individuals, 28.57%), followed closely by those with first degrees (3 individuals, 21.43%). Notably, management positions are characterized by a mix of educational backgrounds, with the highest representation being individuals with master's degrees (1 individual, 7.14%) and first degrees (1 individual, 7.14%). This educational diversity may influence the depth of understanding of system functionalities, data management practices, and curriculum integration, underscoring the need for tailored training programs and capacity-building initiatives to support successful implementation across different stakeholder groups.

In the fourth item of Table 4.2, the data illustrate the distribution of years of service among different groups within the institution, revealing varying tenure patterns across roles. The majority of both instructors and support staff fall within the 6-10 years bracket, constituting 67.35% of instructors and 84.85% of support staff surveyed. In contrast, department heads and management positions exhibit a more diverse distribution, with individuals distributed across all three tenure categories. Notably, while a substantial proportion of department heads and management have served between 6-10 years, there is also representation in the above 10 years bracket, indicating a mix of experienced and relatively newer leaders within these roles. This tenure diversity may influence leadership styles, organizational culture, and resistance to change, highlighting the importance of fostering collaboration, communication, and buy-in among stakeholders with varying levels of institutional experience to facilitate successful system implementation.

Demographic characteristics of participants were not the unit of analysis for this study, however examining the demographic characteristics of participants provides crucial insights into the composition of respondents and its potential implications for the study. Table 4.3, presented the demographic characteristics of student participants.

In Table 4.3, the gender distribution among student participants reveals a higher representation of females (69.37%) compared to males (30.63%). This gender imbalance may influence perspectives on technology usage, administrative processes, and educational experiences within the college. Understanding gender dynamics is essential for ensuring

inclusivity and addressing potential disparities in access, engagement, and support for SIS implementation among male and female students.

Table 4.3: Characteristics of student respondents

Variables	Groups	N	%
Gender	Male	34	30.63
	Female	77	69.37
Age	Below 25	67	60.36
	25 – 35	31	27.93
	36 - 45	13	11.71
	46 - 55	0	0.00
	Above 55	0	0.00
Current level of education at St. Lideta Health Science and business College (in Year)	First	34	30.63
	Second	27	24.32
	Third	39	35.14
	Fourth	11	9.91
	Fifth	0	0.00

Source: Survey, 2024

Student participants span various age groups, with the majority falling below 25 years (60.36%), followed by those aged 25-35 (27.93%) and 36-45 (11.71%). The absence of participants above 45 years suggests a concentration of younger students in the study. These age dynamics may impact technology adoption rates, digital literacy levels, and receptiveness to educational innovations such as SIS. Tailoring implementation strategies to meet the diverse needs and preferences of different age cohorts is crucial for promoting student engagement and maximizing the benefits of SIS integration.

The third item of Table 4.3, showed the distribution of students across different education levels (in years) reflects a diverse academic background within the participant cohort. The majority of students are in their third year (35.14%) or first year (30.63%), followed by second year (24.32%) and fourth year (9.91%). The absence of fifth-year students indicates a potential limitation in capturing perspectives from more senior students. Understanding students' academic progression and educational experiences at various stages can inform the design and implementation of SIS features and functionalities that align with their learning needs and goals.

Regarding to student participants' awareness of SIS implementation at St. Lideta Health Science College, 56.76% indicated that they have an awareness of SIS implementation and

43.24% reporting no knowledge on it. This disparity in awareness levels underscores the importance of communication and outreach efforts to ensure all students are informed about SIS and its potential impact on their academic experience. Addressing gaps in awareness can enhance student engagement, participation, and feedback in the implementation process, ultimately facilitating smoother adoption and integration of SIS into college operations.

Table 4.4: Qualitative Interpretation of 5-Point Likert Scale Measurements

Likert-Scale Description	Likert-Scale	Likert Scale interval
Strongly disagree	1	1.00 - 1.80
Disagree	2	1.81 - 2.60
Neutral/Uncertain	3	2.61 - 3.40
Agree	4	3.41 - 4.20
Strongly agree	5	4.21 - 5.00

Source: Pimentel (2010)

We conducted an analysis of descriptive statistics, encompassing means, standard deviation, and frequencies. The interpretation of the means, as outlined in Table 4.4, is delineated thus: Strong disagreement corresponds to a point range of 1.00 - 1.80, disagreement spans from 1.81 to 2.60, neutrality falls between 2.61 and 3.40, agreement ranges from 3.41 to 4.20, and strong agreement encompasses the point range of 4.21 - 5.00 (Pimentel, 2010).

4.3. Student Information System practice

The implementation of a Student Information System (SIS) is a transformative practice for colleges, revolutionizing the management of student data and academic processes. Research by Deng et al. (2017) emphasizes how SIS integration enhances administrative efficiency by automating routine tasks like course registration and grade tracking, thus reducing operational costs and minimizing errors. The following sub-sections present participants' responses regarding the practice of Student Information System (SIS) at St. Lideta Health Science College.

4.3.1. Instructors response on Student Information System practice

This section presents instructor participants' responses regarding data security, accuracy, efficiency, training and other practices during the implementation of a Student Information System (SIS) at St. Lideta Health Science College.

Table 4.5: Instructors response on Student Information System practice

No	Statements	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	Mean	SD
1	The process of updating student information is efficient.	0	5	3	0	0	2.38	0.52
2	Student academic records are accurately maintained.	1	4	2	1	0	2.38	0.92
3	The college ensures the security of student information.	0	0	1	7	0	3.88	0.35
4	Accessing student information is easy when needed.	0	4	4	0	0	2.50	0.53
5	Changes in student information management policies are effectively communicated.	0	4	3	1	0	2.63	0.74
6	Various student information systems are efficiently integrated.	0	2	4	2	0	3.00	0.76
7	Staff receives adequate training and support in managing student information.	1	3	4	0	0	2.38	0.74
8	Overall, I am satisfied with how the college manages student information.	1	6	1	0	0	2.00	0.53

Source: Survey, 2024

In the first item of Table 4.5, participants were somewhat divided on the efficiency of updating student information, with a mean score falling within the neutral range (M = 2.38, SD = 0.52). While some respondents disagreed with the efficiency, others were neutral.

Efficient updating of student information is crucial for maintaining accurate records and ensuring smooth administrative processes. Research suggests that efficient data management systems positively impact organizational performance (Laudon & Laudon, 2017). To improve efficiency, the college could consider implementing automated systems or streamlining existing processes, thereby enhancing data accuracy and administrative efficacy.

However, during the interview with department heads, one of them said the following:

> *"I believe the current processes for managing student information within our department are highly efficient. Our staff members are well-trained in utilizing the latest information management systems, ensuring that student records are accurately maintained and readily accessible when needed. This streamlined approach allows us to effectively track student progress, address their academic needs, and provide timely support services." (Department head-A: Jan 17, 2024)*

In the second item of Table 4.5, responses regarding the accuracy of student academic records also yielded a neutral mean score (M = 2.38, SD = 0.92), indicating some uncertainty among participants. Accurate academic records are fundamental for academic institutions to make informed decisions and provide quality education services. A study by Heath, Maghrabi, & Carr (2015)emphasized the importance of accurate record-keeping for effective educational management. St. Lideta Health Science and business College may need to review its record-keeping procedures and invest in training staff to ensure accurate data entry and maintenance.

In the third item of Table 4.5, Participants generally agreed that the college ensures the security of student information (M = 3.88, SD = 0.35), reflecting a high level of consensus. Protecting student data is paramount to maintain trust and comply with data protection regulations. Research by Trček, Trobec, Pavešić, & Tasič, (2007) highlights the importance of data security in educational institutions to prevent breaches and safeguard sensitive information. St. Lideta Health Science and business College should continue prioritizing robust security measures and regularly review its data protection policies to mitigate risks effectively.

In the fourth item of Table 4.5, Responses indicated a neutral stance regarding the ease of accessing student information (M = 2.50, SD = 0.53). Accessible information systems

facilitate efficient decision-making and enhance organizational effectiveness (Gurr, 2000). Improving accessibility could involve implementing user-friendly interfaces or providing staff with adequate training to navigate the system effectively. Additionally, regular feedback mechanisms could be established to identify and address accessibility challenges.

In the fifth item of Table 4.5, The mean score for the effectiveness of communicating changes in student information management policies fell within the neutral range (M = 2.63, SD = 0.74). Effective communication is vital for ensuring staff awareness and compliance with policy changes (Davies & Lam, 2018). The college should prioritize clear and timely communication channels to keep staff informed about policy updates. Regular training sessions and informational resources could also enhance staff understanding and adherence to new policies.

Item 6 of Table 4.5, Participants generally perceived the integration of various student information systems as efficient (M = 3.00, SD = 0.76). Integrated systems streamline data management processes and facilitate data sharing across departments (Alshamsi, Kassim, & Salamzadeh, 2023). St. Lideta Health Science and business College should continue leveraging integrated systems to improve operational efficiency and enhance data accuracy. Regular system audits and updates are essential to ensure seamless integration and compatibility.

Item 7 of Table 4.5, Responses regarding staff training and support in managing student information yielded a neutral mean score (M = 2.38, SD = 0.74). Adequate training and ongoing support are essential for staff to effectively utilize information systems (Schildkamp, 2019). The college should invest in comprehensive training programs tailored to staff roles and responsibilities. Additionally, providing accessible support channels and resources can empower staff to navigate system challenges effectively.

In the last item of Table 4.5, the overall satisfaction with how the college manages student information received a neutral mean score (M = 2.00, SD = 0.53), with some respondents expressing dissatisfaction. A study by Wang et al. (2020) emphasized the link between user satisfaction and system effectiveness. To address areas of dissatisfaction, the college should prioritize feedback mechanisms, conduct regular satisfaction surveys, and implement improvement initiatives to enhance user experience and overall satisfaction.

During the interview session, one of the department head said:

> *"From my perspective, the current processes for managing student information within our department are excellent. We have implemented robust data management protocols and digital platforms that enable seamless communication and collaboration among faculty members, administrative staff, and students. This integrated system enhances transparency, reduces paperwork, and facilitates quick decision-making, ultimately contributing to the overall success and satisfaction of our students." (Department head-B: Jan 17, 2024)*

In general, the findings highlight both strengths and areas for improvement in the implementation of student information systems at St. Lideta Health Science College. Enhancing efficiency, accuracy, security, accessibility, communication, integration, training, and overall satisfaction are crucial for optimizing the benefits of information management systems. Future efforts should focus on addressing identified challenges, fostering a culture of continuous improvement, and ensuring that student information systems align with the college's strategic goals and objectives. Investing in staff training, system upgrades, and feedback mechanisms can contribute to a more effective and user-friendly information management environment, ultimately enhancing organizational performance and stakeholder satisfaction.

4.3.2. Supporting Staff response on Student Information System practice

This section presents supporting staff participants' responses regarding the implementation of a Student Information System (SIS) at St. Lideta Health Science College.

Regarding to efficiency of updating student information, as indicated in Table 4.6, the mean score for this statement is 2.29, indicating a disagreement response. While most participants strongly disagreed or disagreed, the standard deviation of 0.71 suggests their level of consensus in perceptions among supporting staff members. Efficient processes for updating student information are crucial for ensuring accuracy and timeliness, which can impact various aspects of academic and administrative functions (Shah, 2014). Further investigation may be needed to address any inefficiency identified by staff members and streamline the updating process for improved effectiveness.

Table 4.6: Supporting Staff response on Student Information System practice

No	Statements	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	Mean	SD
1	The process of updating student information is efficient.	4	18	12	1	0	2.29	0.71
2	Student academic records are accurately maintained.	0	22	13	0	0	2.37	0.49
3	The college ensures the security of student information.	0	0	11	12	12	4.03	0.82
4	Accessing student information is easy when needed.	0	15	20	0	0	2.57	0.50
5	Changes in student information management policies are effectively communicated.	0	23	12	0	0	2.34	0.48
6	Various student information systems are efficiently integrated.	7	13	14	1	0	2.26	0.82
7	Staffs receive adequate training and support in managing student information.	0	21	14	0	0	2.40	0.50
8	Overall, I am satisfied with how the college manages student information.	0	25	10	0	0	2.29	0.46

Source: Survey, 2024

During the interview session, one of the department head said:

> *"I have a positive view of the current processes for managing student information within our department. The utilization of advanced technology and software solutions has greatly improved the accuracy and accessibility of student records. Our team is diligent in maintaining data integrity and ensuring compliance with privacy regulations, which instills confidence in both students and stakeholders regarding the security of their information." (Department head-B: Jan 17, 2024)*

In the second item of Table 4.6, about accuracy of student academic records, with a mean score of 2.37, responses fall within the disagreement range. While most participants strongly disagreed, the standard deviation of 0.49 indicates a good level of consensus among supporting staff members. Accurate maintenance of student academic records is fundamental for academic integrity and institutional reputation (Tennant et al., 2016). Given the importance of reliable records, the college should consider addressing any concerns raised by staff members to ensure data accuracy and integrity.

In the third item of Table 4.6, security of Student Information, participants strongly agreed on the security of student information, as evidenced by the mean score of 4.03, well above the agreement threshold. The notable standard deviation of 0.82 suggests some level of

consensus in perceptions among supporting staff members. Data security is paramount in educational institutions, and strong measures must be in place to safeguard sensitive student information (Chen & Gong, 2017). The college's robust security measures, as perceived by staff, reflect positively on its commitment to protecting student privacy and confidentiality.

In the fourth item of Table 4.6, ease of accessing Student Information, Staff members provided a disagreement response regarding the ease of accessing student information, with a mean score of 2.57. The standard deviation of 0.50 indicates some level of consensus in perceptions among supporting staff. Easy access to student information is essential for facilitating timely decision-making and supporting student needs (Wu et al., 2019). Addressing any barriers to access identified by staff members could enhance operational efficiency and improve overall satisfaction with the information system.

In the fifth item of Table 4.6, Communication of Information Management Policies, the mean score of 2.34 falls within the disagreement range, indicates a mixed response from supporting staff members regarding the effectiveness of communicating information management policies. The standard deviation of 0.48 suggests some variability in perceptions. Clear communication of policies is crucial for ensuring staff adherence and compliance with institutional guidelines (Heath, Maghrabi, & Carr, 2015). Enhancing communication channels and practices may help address any perceived gaps and promote better policy understanding among staff.

In the sixth item of Table 4.6, about efficient Integration of Information Systems, participants provided a disagreement response regarding the integration of various student information systems, with a mean score of 2.26. While opinions varied, the standard deviation of 0.82 indicates some level of agreement among supporting staff members. Efficient integration of systems is essential for seamless data flow and interoperability, facilitating effective decision-making (Schildkamp, 2019). The college may need to evaluate its integration processes to ensure optimal system performance and user experience.

Item seven of Table 4.6, related to training and Support for Managing Information, staff members provided a neutral response regarding the adequacy of training and support in managing student information, with a mean score of 2.40. While opinions varied, the standard deviation of 0.50 suggests some level of consensus among supporting staff members. Adequate training and support are vital for empowering staff to utilize

information systems effectively (Semeon, Negash, & Musa, 2010). Addressing any identified gaps in training and support can enhance staff confidence and proficiency in managing student information.

In the last item of Table 4.6, related to satisfaction with Information Management, with a mean score of 2.29, responses regarding overall satisfaction with how the college manages student information fall within the disagreement range. While opinions were mixed, the standard deviation of 0.46 indicates a moderate level of consensus among supporting staff members. Satisfaction with information management practices can influence staff morale and productivity (Arora, 2006). Identifying areas for improvement and implementing appropriate measures can enhance staff satisfaction and contribute to the effective utilization of information systems.

During the interview session, one of the department head said:

> *"Honestly, I have some concerns about the current processes for managing student information within our department. While we have made significant strides in digitizing our records and implementing information management systems, there are still occasional issues with data inconsistencies and system glitches. These challenges can sometimes lead to delays in accessing important student information or inaccuracies in academic records, which can be frustrating for both staff and students. I believe there is room for improvement in terms of system reliability and user training to address these issues effectively." (Department head-D: Jan 19, 2024)*

In summary, while supporting staff members at St. Lideta Health Science and business College generally perceive the security of student information positively, there are areas of concern, such as the efficiency of updating information and the adequacy of training and support. Addressing these challenges and enhancing communication and integration processes can optimize the implementation of the student information system, fostering a conducive environment for academic and administrative operations.

4.3.3. Students response on Student Information System practice

This section presents student participants' responses regarding the implementation of a Student Information System (SIS) at St. Lideta Health Science College.

In the first item of Table 4.7, the mean score of 2.03 and a low standard deviation of 0.16 suggest a consensus among students that the student information provided by St. Lideta Health Science and business College is not well-organized. This falls below the threshold for disagreement, indicating a clear need for improvement in information organization. Well-organized student information systems are crucial for facilitating efficient access to academic records and resources (Jalagat & Al-Habsi, 2017), enhancing student satisfaction and administrative effectiveness. Further investigation into specific areas of disorganization and student preferences can inform targeted interventions to enhance information organization and accessibility.

Table 4.7: Students response on Student Information System practice

No	Statements	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	Mean	SD
1	The student information provided by St. Lideta Health Science and business College is well-organized.	0	108	3	0	0	2.03	0.16
2	The features of the college's student information system are easy to navigate.	41	56	14	0	0	1.76	0.66
3	The student information system effectively supports academic advising processes.	52	42	15	2	0	1.70	0.77
4	The integration of the student information system with other platforms is seamless.	8	72	28	3	0	2.23	0.62
5	Administrative staff are responsive to inquiries related to student information.	0	0	12	64	35	4.21	0.62
6	The student information system contributes positively to my academic experience.	62	49	0	0	0	1.44	0.50
7	Overall, I am satisfied with how St. Lideta Health Science and business College manages student information.	51	59	1	0	0	1.55	0.52

Source: Survey, 2024

In the second item of Table 4.7, about ease of Navigation in the System, with a mean score of 1.76 and a standard deviation of 0.66, the majority of students expressed dissatisfaction with the ease of navigating the college's student information system. This consensus falls within the disagreement range, highlighting a significant usability issue. User-friendly interfaces are essential for promoting system adoption and user satisfaction (Alshammari et al., 2020). Improving navigation features through iterative design approaches and user

feedback can enhance system usability and efficiency. Further exploration into specific navigation challenges and student expectations is warranted to inform usability enhancements.

In the third item of Table 4.7, the mean score of 1.70 and a standard deviation of 0.77 suggest a consensus among students that the student information system inadequately supports academic advising processes. This falls within the disagreement range, indicating a pressing need for improvement. Effective academic advising is critical for student success and retention (Baker & Griffin, 2010), emphasizing the importance of supportive information systems. Enhancements such as personalized advising features and real-time access to academic records can empower advisors and improve student outcomes. Further investigation into specific gaps in advising support and student preferences can inform targeted interventions to enhance system effectiveness.

In the fourth item of Table 4.7, related to integration with other platforms, with a mean score of 2.23 and a standard deviation of 0.62, students generally disagreed that the integration of the student information system with other platforms is seamless. While there is variability in perceptions, the consensus falls within the agreement range. Integrated systems promote data consistency and efficiency (Eisenberg & Lowe, 2009), contributing to streamlined administrative processes. Further exploration into specific integration challenges and stakeholder requirements can inform strategies to optimize integration and enhance system interoperability.

In the fifth item of Table 4.7, about responsiveness of administrative Staff, the mean score of 4.21 and a low standard deviation of 0.62 indicate overwhelming agreement among students that administrative staff are responsive to inquiries related to student information. This high level of agreement underscores the importance of responsive support services in promoting student satisfaction and retention (Pascarella & Terenzini, 2005). Sustaining this level of responsiveness is crucial for maintaining positive student experiences and fostering a supportive learning environment. Continued training and support for administrative staff can further enhance their ability to address student inquiries promptly and effectively.

During interview session, one of a management member at St. Lideta Health Science and business College regarding the process of updating and maintaining student information said:

"We have established a comprehensive system for updating and maintaining student information. The process begins with ensuring that all student records are accurately entered into our centralized database upon admission. We have dedicated staff members responsible for overseeing data entry and verifying the accuracy of the information provided. Throughout the academic year, we regularly update student records to reflect changes such as course registrations, grades, and personal details. This process is facilitated through our integrated information management system, which allows for real-time updates and ensures that all relevant stakeholders have access to the most up-to-date information. Additionally, we have implemented strict protocols to safeguard the privacy and security of student data, in compliance with relevant regulations. Continuous training and professional development opportunities are provided to staff members involved in data management to ensure proficiency in using the systems and maintaining data integrity. Overall, our approach prioritizes accuracy, efficiency, and security in handling student information, ultimately contributing to a smooth and transparent academic experience for our students." (Management-A: Jan 15, 2024)

In the sixth item of Table 4.7, the mean score of 1.44 and a standard deviation of 0.50 suggest a consensus among students that the student information system does not positively contribute to their academic experience. This falls within the disagreement range, highlighting a significant area for improvement. A supportive information system can enhance student engagement and satisfaction (Wang et al., 2015), underscoring the importance of addressing identified deficiencies. Enhancements such as personalized learning resources and proactive communication features can enrich the academic experience and promote student success. Further investigation into specific factors influencing academic experience perceptions can inform targeted interventions to enhance system effectiveness.

In the last item of Table 4.7, related to satisfaction with Management of Student Information, the mean score of 1.55 and a standard deviation of 0.52 suggest general dissatisfaction among students with how St. Lideta Health Science and business College manages student information. This falls within the disagreement range, indicating a need for improvement. Effective management of student information is essential for data

integrity and institutional decision-making (Nora et al., 2005). Addressing identified deficiencies, such as organization and support for academic processes, can enhance overall satisfaction with information management. Further exploration into stakeholder expectations and system requirements can inform strategies to optimize information management practices.

In summary, the findings highlight several areas for improvement in the implementation of the student information system at St. Lideta Health Science and business College from the students' perspective. Enhancements in information organization, system usability, academic support, and information management are crucial for promoting student satisfaction and success. Further investigation into specific challenges and student preferences can inform targeted interventions to enhance system effectiveness. Investing in the improvement of the student information system aligns with broader efforts to promote quality education and student support services, ultimately fostering a conducive learning environment for all stakeholders.

4.4. Opportunities for the implementation of SIS

Smith and Caruso (2018) emphasizes how SIS implementation can lead to streamlined administrative processes and improved data-driven decision-making in higher education institutions. These opportunities underscore the potential for SIS to contribute significantly to the college's efficiency and effectiveness in managing student information. The following sub sections present participants' responses regarding the opportunities in implementing a Student Information System (SIS) at St. Lideta Health Science College.

4.4.1. Instructors response on opportunities in the implementation of SIS

This section presents instructors participants' responses regarding the opportunities in implementing a Student Information System (SIS) at St. Lideta Health Science College.

Table 4.8: Instructors response on opportunities in the implementation of SIS

No	Statements	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	Mean	SD
1	The benefits of implementing a Student Information System (SIS) are clearly communicated.	0	3	4	1	0	2.75	0.71
2	Implementing a Student Information System (SIS) would streamline administrative processes.	0	1	1	6	0	3.63	0.74

3	There is strong support from college management for implementing a Student Information System (SIS).	0	6	2	0	0	2.25	0.46
4	Potential vendors or solutions for implementing a Student Information System (SIS) have been identified.	0	0	2	6	0	3.75	0.46
5	Implementing a Student Information System (SIS) aligns with the strategic goals of the college.	0	0	1	7	0	3.88	0.35
6	Implementing a Student Information System (SIS) could lead to better decision-making processes.	0	0	1	7	0	3.88	0.35
7	Overall, I see significant opportunities for the successful implementation of a Student Information System (SIS) at the college.	0	0	4	4	0	3.50	0.53

Source: Survey, 2024

In the first item of Table 4.8, the mean score for the statement "The benefits of implementing a Student Information System (SIS) are clearly communicated" fell within the neutral range (M = 2.75, SD = 0.71), indicating some uncertainty among participants. Effective communication is essential for garnering support and understanding the rationale behind system implementation (Baweja, Santiago, & Vona, 2016). Clear communication about the benefits of an SIS can enhance stakeholder buy-in and alleviate concerns. Therefore, St. Lideta Health Science and business College should prioritize clear and transparent communication strategies to ensure that all stakeholders understand the advantages of adopting an SIS.

A response during the interview from a management member at St. Lideta Health Science and business College regarding the strategic benefits of implementing a Student Information System (SIS):

> *"The implementation of a Student Information System (SIS) holds significant strategic benefits for St. Lideta Health Science College. Firstly, an SIS will streamline our administrative processes, enabling us to manage student information more efficiently and effectively. With a centralized database, we can easily track student enrollment, academic progress, and financial records in real-time, reducing manual paperwork and administrative overhead. This improved efficiency will allow our staff to focus more on providing quality education and student support services. Secondly, an SIS enhances data-driven decision-making by providing timely access to*

comprehensive student analytics and performance metrics. With detailed insights into student demographics, learning outcomes, and retention rates, we can identify trends, assess program effectiveness, and tailor interventions to support student success. (Management-B: Jan 19, 2024)

In the second item of Table 4.8, participants generally agreed that implementing a Student Information System (SIS) would streamline administrative processes (M = 3.63, SD = 0.74), indicating a positive perception of the system's potential benefits. Streamlining administrative processes can lead to improved efficiency, reduced workload, and enhanced productivity (Jiang et al., 2020). Given the importance of administrative efficiency in academic institutions, investing in an SIS could yield substantial benefits for St. Lideta Health Science College. However, ongoing evaluation and refinement of system functionalities may be necessary to maximize efficiency gains.

In the third item of Table 4.8, the mean score for the statement "There is strong support from college management for implementing a Student Information System (SIS)" fell within the disagreement range (M = 2.25, SD = 0.46), indicating a lack of consensus among participants. Strong support from college management is crucial for successful system implementation (Al-Busaidi et al., 2019). Therefore, efforts should be made to engage college leadership, communicate the value proposition of an SIS, and address any concerns or reservations they may have. Building a strong case for the SIS's alignment with the college's strategic objectives can help garner support from management.

In the fourth item of Table 4.8, participants generally agreed that potential vendors or solutions for implementing an SIS have been identified (M = 3.75, SD = 0.46), indicating a positive step towards implementation readiness. Identifying suitable vendors is a critical aspect of the implementation process, as it ensures that the chosen solution aligns with the college's needs and requirements (Shen et al., 2020). St. Lideta Health Science and business College should continue its efforts to evaluate different vendors and solutions to select the most suitable option that meets its specific needs and budgetary constraints.

In the fifth item of Table 4.8, the mean score for the statement "Implementing a Student Information System (SIS) aligns with the strategic goals of the college" indicated agreement among participants (M = 3.88, SD = 0.35). Aligning system implementation with strategic objectives enhances the likelihood of success and ensures that the investment contributes to the college's long-term vision and mission (Tanriverdi & Iacono, 2021).

Therefore, St. Lideta Health Science and business College should continue to assess how an SIS can support its strategic goals and incorporate it into its strategic planning processes accordingly.

In the sixth item of Table 4.8, participants agreed that implementing a Student Information System (SIS) could lead to better decision-making processes (M = 3.88, SD = 0.35), reflecting optimism about the system's potential impact. An SIS provides timely access to accurate data, enabling informed decision-making across various academic and administrative functions (Al-Jabri & Al-Adawi, 2020). By leveraging data-driven insights, the college can optimize resource allocation, improve student outcomes, and enhance overall institutional effectiveness.

In the last item of Table 4.8, the mean score for the statement "Overall, I see significant opportunities for the successful implementation of a Student Information System (SIS) at the college" indicated agreement among participants (M = 3.50, SD = 0.53). This suggests that participants perceive favorable conditions and readiness for SIS implementation. Recognizing and capitalizing on opportunities is essential for successful system adoption and realization of benefits (Wang & Lee, 2018). St. Lideta Health Science and business College should leverage this positive outlook to drive momentum and effectively execute the implementation process, addressing any challenges or barriers along the way.

In general, the findings underscore the importance of clear communication, stakeholder engagement, strategic alignment, and robust planning in the successful implementation of a Student Information System (SIS) at St. Lideta Health Science College. While participants expressed optimism about the benefits and opportunities associated with an SIS, there are areas that require attention, such as securing stronger support from college management. Moving forward, the college should focus on addressing these challenges, fostering a culture of change readiness, and ensuring that the implementation process is guided by strategic objectives and best practices. By doing so, St. Lideta Health Science and business College can harness the full potential of an SIS to improve administrative efficiency, enhance decision-making processes, and ultimately, deliver better outcomes for its students and stakeholders.

4.4.2. Support Staff response on opportunities in the implementation of SIS

This section presents supporting staff participants' responses regarding the opportunities in implementing a Student Information System (SIS) at St. Lideta Health Science College.

In the first item of Table 4.9, the mean score of 3.37 and a standard deviation of 0.94 suggest neutral agreement among supporting staff regarding whether the benefits of implementing a Student Information System (SIS) are clearly communicated. This falls within the neutral range, indicating varying perceptions regarding the clarity of communication. Effective communication of benefits is crucial for garnering stakeholder support and fostering buy-in (Aladwani, 2001). Clear and transparent communication strategies can help align expectations and promote understanding of the value proposition associated with SIS implementation. Further investigation into communication channels and stakeholder feedback can inform strategies to improve the clarity and effectiveness of communication efforts.

Table 4.9: Support Staff response on opportunities in the implementation of SIS

No	Statements	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	Mean	SD
1	The benefits of implementing a Student Information System (SIS) are clearly communicated.	1	4	15	11	4	3.37	0.94
2	Implementing a Student Information System (SIS) would streamline administrative processes.	0	0	28	7	0	3.20	0.41
3	There is strong support from college management for implementing a Student Information System (SIS).	0	0	13	16	6	3.80	0.72
4	Potential vendors or solutions for implementing a Student Information System (SIS) have been identified.	0	0	14	21	0	3.60	0.50
5	Implementing a Student Information System (SIS) aligns with the strategic goals of the college.	0	0	0	19	16	4.46	0.51
6	Implementing a Student Information System (SIS) could lead to better decision-making processes.	0	0	8	24	3	3.86	0.55
7	Overall, I see significant opportunities for the successful implementation of a Student Information System (SIS) at the college.	0	0	12	22	1	3.69	0.53

Source: Survey, 2024

A response during the interview from a management member at St. Lideta Health Science and business College regarding the strategic benefits of implementing a Student Information System (SIS):

> *"SIS promotes better communication and collaboration among faculty, staff, students, and parents through features such as online portals, messaging systems, and academic advising tools. This increased connectivity fosters a stronger sense of community and engagement, ultimately enhancing the overall student experience. Lastly, by modernizing our information management infrastructure, we position St. Lideta Health Science and business College as a forward-thinking institution committed to innovation and excellence in education. As we embrace technology-driven solutions, we remain competitive in attracting top talent, fostering academic excellence, and meeting the evolving needs of our students and stakeholders." (Management-A: Jan 15, 2024)*

In the second item of Table 4.9, with a mean score of 3.20 and a low standard deviation of 0.41, supporting staff largely neutral agreement on implementing a Student Information System (SIS) would streamline administrative processes. This falls within the neutral range, indicating a perceived potential for process improvement. SIS adoption can automate routine administrative tasks, enhance data accuracy, and improve operational efficiency (Ferreira et al., 2019). Streamlining administrative processes aligns with broader efforts to optimize resource utilization and enhance service delivery. Further exploration into specific administrative pain points and stakeholder requirements can inform targeted interventions to maximize the efficiency gains associated with SIS implementation.

In the third item of Table 4.9, the mean score of 3.80 and a standard deviation of 0.72 suggest agreement among supporting staff that there is strong support from college managements for implementing a Student Information System (SIS). This falls within the agreement range, indicating widespread recognition of management support. Strong leadership endorsement is critical for driving successful SIS implementation (Lapointe & Rivard, 2005), providing the necessary resources and fostering a supportive organizational culture. Management support signals a commitment to the project's success and can inspire confidence among stakeholders. Further exploration into management priorities and

communication strategies can inform efforts to sustain and leverage management support throughout the implementation process.

In the fourth item of Table 4.9, the mean score of 3.60 and a standard deviation of 0.50 suggest agreement among supporting staff that potential vendors or solutions for implementing a Student Information System (SIS) have been identified. This falls within the agreement range, indicating a perceived readiness in vendor selection. Identifying suitable vendors or solutions is a crucial step in the implementation process, ensuring compatibility with organizational requirements and goals (McCarthy et al., 2017). Thorough vendor evaluations and stakeholder consultations can inform informed decision-making and mitigate implementation risks. Further exploration into vendor selection criteria and stakeholder preferences can inform strategies to optimize vendor selection processes and enhance solution alignment with institutional needs.

Item 5 of Table 4.9, with a mean score of 4.46 and a standard deviation of 0.51, supporting staff strongly agreed that implementing a Student Information System (SIS) aligns with the strategic goals of the college. This falls within the agreement range, indicating widespread recognition of alignment with organizational priorities. SIS implementation supports strategic objectives such as improving operational efficiency, enhancing data-driven decision-making, and enhancing student services (Deng et al., 2017). Alignment with strategic goals reinforces the importance of SIS implementation as a strategic initiative and underscores its potential to contribute to organizational success. Further exploration into strategic alignment objectives and stakeholder expectations can inform efforts to maximize the strategic impact of SIS implementation.

Item 6 of Table 4.9, the mean score of 3.86 and a standard deviation of 0.55 suggest agreement among supporting staff that implementing a Student Information System (SIS) could lead to better decision-making processes. This falls within the agreement range, indicating perceived benefits in decision-making enhancements. SIS implementation enables access to real-time data, data analytics, and reporting capabilities, empowering stakeholders to make informed decisions (Honey & Kumar, 2020). Improved decision-making processes contribute to organizational effectiveness and performance improvement. Further exploration into decision-making needs and stakeholder expectations can inform strategies to optimize decision support capabilities and maximize the value derived from SIS implementation.

In the last item of Table 4.9, the mean score of 3.69 and a standard deviation of 0.53 suggest agreement among supporting staff that there are significant opportunities for the successful implementation of a Student Information System (SIS) at the college. This falls within the agreement range, indicating optimism about implementation prospects. Recognizing opportunities for success is essential for mobilizing efforts and sustaining momentum throughout the implementation journey. Leveraging identified opportunities and building on existing strengths can enhance the likelihood of successful outcomes. Further exploration into identified opportunities and stakeholder perspectives can inform strategies to capitalize on implementation prospects and mitigate potential challenges.

In summary, the findings highlight various opportunities perceived by supporting staff for the successful implementation of a Student Information System (SIS) at St. Lideta Health Science College. While there is optimism about the alignment with strategic goals, management support, and potential benefits such as process streamlining and improved decision-making, perceptions vary regarding communication effectiveness and readiness in vendor selection. Addressing these opportunities requires a strategic approach, including effective communication strategies, stakeholder engagement efforts, and alignment with organizational goals. Further exploration into identified opportunities and stakeholder perspectives can inform targeted interventions to maximize the likelihood of successful SIS implementation. Investing in the implementation of SIS aligns with broader efforts to modernize educational systems, improve operational efficiency, and enhance student support services, ultimately contributing to the college's mission and promoting its reputation.

4.4.3. Students response on opportunities in the implementation of SIS

This section presents student participants' responses regarding the opportunities in implementing a Student Information System (SIS) at St. Lideta Health Science College.

Table 4.10: Students response on opportunities in the implementation of SIS

No	Statements	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	Mean	SD
1	Implementing a SIS would enhance access to academic information.	10	43	51	7	0	2.50	0.75
2	A SIS would streamline administrative processes at the college.	29	79	3	0	0	1.77	0.49
3	Integrating a SIS would improve communication between stakeholders.	57	47	7	0	0	1.55	0.61

4	Implementing a SIS would facilitate better tracking of student progress.	69	42	0	0	0	1.38	0.49
5	A SIS would provide students with more personalized support.	0	104	7	0	0	2.06	0.24
6	Implementing a SIS would contribute to a more efficient use of resources.	45	60	6	0	0	1.65	0.58
7	Overall, I believe implementing a SIS would be beneficial for St. Lideta Health Science College.	0	3	32	59	17	3.81	0.72

Source: Survey, 2024

In the first item of Table 4.10, the mean score of 2.50 and a standard deviation of 0.75 indicate a neutral perception among participants regarding whether implementing a Student Information System (SIS) would enhance access to academic information. While the mean score falls within the neutral range, the standard deviation suggests some variability in perceptions. Research by Chen and Lee (2018) emphasizes the role of SIS in improving access to academic information, which can lead to better-informed decision-making and academic planning. Further investigation into specific barriers to accessing academic information and stakeholder preferences can inform targeted interventions to optimize information accessibility.

In the second item of Table 4.10, with a mean score of 1.77 and a standard deviation of 0.49, participants predominantly disagreed that a Student Information System (SIS) would streamline administrative processes at the college. This falls within the disagreement range, indicating a clear perception that administrative processes may not be significantly improved. Efficient administrative processes are crucial for resource allocation and institutional effectiveness (Nguyen et al., 2019), highlighting the importance of streamlining efforts. Further exploration into specific administrative challenges and stakeholder requirements can inform strategies to optimize administrative processes and maximize the benefits of SIS implementation.

In the third item of Table 4.10, the mean score of 1.55 and a standard deviation of 0.61 suggest a consensus among participants that integrating a Student Information System (SIS) would not necessarily improve communication between stakeholders. This falls within the disagreement range, indicating a perceived limitation in communication enhancements. Effective communication is essential for fostering collaboration and stakeholder engagement (Chen & Lin, 2019), underscoring the importance of addressing communication gaps. Further investigation into stakeholder communication needs and

preferences can inform strategies to enhance communication effectiveness and promote stakeholder engagement.

In the fourth item of Table 4.10, the mean score of 1.38 and a standard deviation of 0.49 suggest strong disagreement among participants that implementing a Student Information System (SIS) would facilitate better tracking of student progress. This falls below the threshold for disagreement, indicating a clear perception that current tracking mechanisms may not be significantly improved. Effective tracking of student progress is essential for identifying at-risk students and implementing targeted interventions (Rosen et al., 2018). Further exploration into specific tracking challenges and stakeholder requirements can inform strategies to enhance progress monitoring and support student success.

In the fifth item of Table 4.10, the mean score of 2.06 and a low standard deviation of 0.24 indicate a disagreement among participants regarding a Student Information System (SIS) would provide students with more personalized support. While the mean score falls within the neutral range, the low standard deviation suggests relatively consistent perceptions. Personalized support is crucial for addressing diverse student needs and promoting academic success (Campbell & Jolly, 2018). Further investigation into student support preferences and the customization capabilities of SIS can inform strategies to enhance personalized support services and improve student outcomes.

In the sixth item of Table 4.10, with a mean score of 1.65 and a standard deviation of 0.58, participants predominantly disagreed that implementing a Student Information System (SIS) would contribute to a more efficient use of resources. This falls within the disagreement range, indicating a perceived inefficiency in resource utilization. Efficient resource management is essential for optimizing institutional effectiveness and sustainability (Abeysekera & Dawson, 2015), highlighting the importance of maximizing resource efficiency. Further exploration into resource allocation practices and the potential impact of SIS implementation on resource utilization can inform strategies to improve resource efficiency and enhance institutional effectiveness.

7. Overall Perceived Benefit of SIS Implementation: The mean score of 3.81 and a standard deviation of 0.72 indicate strong agreement among participants that implementing a Student Information System (SIS) would be beneficial for St. Lideta Health Science College. This falls within the agreement range, suggesting a clear perception of the overall benefits of SIS implementation. Research by Al-Badi et al. (2019) highlights the positive

impact of SIS on institutional effectiveness and student outcomes, supporting the perceived benefits. Maximizing the benefits of SIS implementation requires careful planning, stakeholder engagement, and ongoing evaluation to ensure alignment with institutional goals and priorities.

In summary, the findings highlight varying perceptions regarding the opportunities for implementing a Student Information System (SIS) at St. Lideta Health Science College. While there is agreement on the overall perceived benefits of SIS implementation, there are also concerns and uncertainties regarding its potential impact on specific aspects such as administrative processes, communication, and resource utilization. Addressing these concerns and leveraging opportunities for improvement are crucial for maximizing the benefits of SIS implementation and enhancing institutional effectiveness. Further investigation into stakeholder needs, preferences, and system requirements can inform targeted interventions to optimize SIS implementation and promote positive outcomes for all stakeholders. Investing in the implementation of SIS aligns with broader efforts to improve educational quality, efficiency, and student support services, ultimately contributing to the college's mission and promoting its reputation.

4.5. Challenges in the implementation of SIS

Regarding the challenges in implementing a Student Information System (SIS), Davies, Dean, and Ball (2013), emphasize the common hurdles encountered during Student Information System implementation in educational setting. The following sub-sections present participants' responses regarding the challenges in implementing a Student Information System (SIS) at St. Lideta Health Science College.

4.5.1. Instructors response on the Challenges in the implementation of SIS

This section presents instructors participants' responses regarding data security, resistance of staffs' and other challenges during the implementing a Student Information System (SIS) at St. Lideta Health Science College.

Table 4.11: Instructors response on the Challenges in the implementation of SIS

No	Statements	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	Mean	SD
1	The budget allocated for implementing a SIS is sufficient.	0	1	3	3	1	3.50	0.93

2	There is resistance from staff towards adopting a new SIS.	0	0	2	6	0	3.75	0.46
3	Staffs lack adequate training and support to use the new SIS.	0	0	2	6	0	3.75	0.46
4	Compatibility issues with existing systems or software may hinder the implementation of a SIS	0	0	1	7	0	3.88	0.35
5	Concerns about data security and privacy pose challenges in the implementation of a SIS	0	0	2	6	0	3.75	0.46
6	Disruptions in college operations are anticipated during the transition to a new SIS.	0	0	2	5	1	3.88	0.64
7	Customizing the SIS to meet specific college requirements is challenging.	0	0	1	7	0	3.88	0.35
8	There is limited support or buy-in from key stakeholders for the implementation of the SIS.	0	3	4	0	1	2.88	0.99

Source: Survey, 2024

In the first item of Table 4.11, the mean score for the statement "The budget allocated for implementing a Student Information System (SIS) is sufficient" falls within the agreement range (M = 3.50, SD = 0.93), indicating general agreement among participants. Adequate financial resources are crucial for the successful implementation of an SIS (Sánchez et al., 2020). However, the relatively high standard deviation suggests some variability in opinions, highlighting the importance of carefully assessing budgetary needs and ensuring transparency in resource allocation. St. Lideta Health Science and business College should prioritize effective budget planning and allocate resources strategically to address potential implementation challenges and mitigate financial constraints.

In the second item of Table 4.11, participants agreed that there is resistance from staff towards adopting a new Student Information System (SIS) (M = 3.75, SD = 0.46), reflecting concerns about organizational change and technology adoption (Venkatesh et al., 2020). Resistance to change can impede the implementation process and undermine system effectiveness (Oreg et al., 2018). Therefore, proactive change management strategies, such as stakeholder engagement, communication, and training, are essential to address resistance and foster a culture of acceptance and readiness for the new system. St. Lideta Health Science and business College should prioritize change management efforts to gain staff buy-in and mitigate resistance, thereby facilitating a smoother transition to the SIS.

Similarly, in the third item of Table 4.11, participants indicated that staff lack adequate training and support to use the new Student Information System (SIS) (M = 3.75, SD =

0.46). Insufficient training can hinder user adoption and lead to suboptimal system utilization (Hong et al., 2019). Therefore, investing in comprehensive training programs and providing ongoing support and resources are critical to equip staff with the necessary skills and knowledge to effectively navigate the SIS. By prioritizing training and support initiatives, St. Lideta Health Science and business College can empower staff to leverage the full potential of the SIS and maximize its benefits for academic and administrative processes.

In the fourth item of Table 4.11, the mean score for the statement "Compatibility issues with existing systems or software may hinder the implementation of a Student Information System (SIS)" indicates agreement among participants (M = 3.88, SD = 0.35). Integrating an SIS with existing systems and infrastructure can present technical challenges and complexities (Alsharif & Alsharif, 2019). Therefore, conducting thorough compatibility assessments and implementing effective integration strategies are essential to ensure seamless interoperability and data exchange between systems. St. Lideta Health Science and business College should collaborate with IT professionals and vendors to address compatibility issues proactively and minimize disruptions during the implementation process.

In the fifth item of Table 4.11, participants agreed that concerns about data security and privacy pose challenges in the implementation of a Student Information System (SIS) (M = 3.75, SD = 0.46). Data security breaches can have severe consequences, including reputational damage and legal liabilities (Alsharif & Alsharif, 2019). Therefore, implementing robust security measures, such as encryption, access controls, and regular audits, is paramount to safeguard sensitive student information. St. Lideta Health Science and business College should prioritize data protection efforts and ensure compliance with relevant regulations, such as GDPR and HIPAA, to build trust and confidence among stakeholders.

During the interview, a response from one of the management member at St. Lideta Health Science and business College regarding measures taken to ensure the security and accuracy of student academic records:

> *"We take the security and accuracy of student academic records very seriously. To safeguard sensitive information and maintain data integrity, we have implemented several measures. Firstly, access to student records is*

strictly controlled and limited to authorized personnel only. Our information management system employs role-based access controls, ensuring that individuals only have access to the data necessary for their roles. Secondly, we utilize encryption and other security protocols to protect data both in transit and at rest, minimizing the risk of unauthorized access or data breaches. By implementing these measures, we strive to ensure the security, integrity, and confidentiality of student academic records, thereby upholding the trust and confidence of our students, faculty, and stakeholders." (Management-A: Jan 19, 2024)

The mean score, in item six of Table 4.11, for the statement "Disruptions in college operations are anticipated during the transition to a new Student Information System (SIS)" indicates agreement among participants (M = 3.88, SD = 0.64). System transitions can lead to temporary disruptions in workflows and operations (Venkatesh et al., 2020). Therefore, developing robust transition plans, setting realistic timelines, and communicating effectively with stakeholders are essential to minimize disruptions and maintain continuity of services. St. Lideta Health Science and business College should proactively manage the transition process, allocate sufficient resources, and provide contingency plans to mitigate potential disruptions and ensure a smooth transition to the new SIS.

In item seven of Table 4.11, participants agreed that customizing the Student Information System (SIS) to meet specific college requirements is challenging (M = 3.88, SD = 0.35). Customization allows institutions to tailor the system to their unique needs and workflows (Alsharif & Alsharif, 2019). However, complex customization requirements can prolong implementation timelines and increase costs. Therefore, St. Lideta Health Science and business College should strike a balance between customization and out-of-the-box functionalities, prioritize essential customizations, and engage stakeholders to ensure alignment with institutional goals and user needs.

In the last item of Table 4.11, The mean score for the statement "There is limited support or buy-in from key stakeholders for the implementation of the Student Information System (SIS)" indicates disagreement among participants (M = 2.88, SD = 0.99), suggesting some variability in opinions. Strong support from key stakeholders, including college leadership and faculty, is crucial for successful system implementation (Sánchez et al., 2020). Therefore, St. Lideta Health Science and business College should engage stakeholders early

in the process, address concerns and reservations, and communicate the benefits and value proposition of the SIS to garner support and foster collaboration.

The findings highlight several challenges that St. Lideta Health Science and business College may encounter in the implementation of a Student Information System (SIS), including staff resistance, training gaps, compatibility issues, and data security concerns. However, there is also acknowledgment of the potential benefits and opportunities associated with the SIS implementation. Moving forward, the college should address these challenges proactively, invest in change management, training, and security measures, and engage stakeholders to ensure a successful implementation process. By overcoming these challenges, St. Lideta Health Science and business College can enhance administrative efficiency, data management practices, and overall institutional effectiveness, ultimately improving the student experience and supporting academic success.

4.5.2. Support Staff response on the Challenges in the implementation of SIS

This section presents supporting staff participants' responses regarding the challenges in implementing a Student Information System (SIS) at St. Lideta Health Science College.

Table 4.12: Support Staff response on the Challenges in the implementation of SIS

No	Statements	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	Mean	SD
1	The budget allocated for implementing a SIS is sufficient.	0	14	21	0	0	2.60	0.50
2	There is resistance from staff towards adopting a new SIS.	0	0	15	17	3	3.66	0.64
3	Staff lacks adequate training and support to use the new SIS.	0	2	16	13	4	3.54	0.78
4	Compatibility issues with existing systems or software may hinder the implementation of a SIS.	0	0	2	33	0	3.94	0.24
5	Concerns about data security and privacy pose challenges in the implementation of a SIS.	0	0	12	21	2	3.71	0.57
6	Disruptions in college operations are anticipated during the transition to a new SIS.	0	1	16	13	5	3.63	0.77
7	Customizing the SIS to meet specific college requirements is challenging.	0	1	9	22	3	3.77	0.65
8	There is limited support or buy-in from key stakeholders for the implementation of the SIS.	2	23	9	1	0	2.26	0.61

Source: Survey, 2024

In the first item of Table 4.12, the mean score of 2.60 and a standard deviation of 0.50 suggest a neutral perception among supporting staff regarding the sufficiency of the budget allocated for implementing a Student Information System (SIS). This falls within the neutral range, indicating varying perceptions regarding budget adequacy. Adequate funding is essential for successful SIS implementation (Ferreira et al., 2019), ensuring sufficient resources for technology acquisition, training, and support. Further investigation into specific budgetary needs and resource allocation priorities can inform strategies to optimize budget utilization and address any perceived funding gaps.

In the second item of Table 4.12, with a mean score of 3.66 and a standard deviation of 0.64, supporting staff largely agreed that there is resistance from staff towards adopting a new Student Information System (SIS). This falls within the agreement range, indicating widespread recognition of resistance barriers. Resistance to change can hinder SIS adoption efforts and impede implementation success (Lapointe & Rivard, 2005). Change management strategies such as communication, training, and stakeholder engagement are essential for addressing resistance and fostering a culture of acceptance. Further exploration into underlying reasons for resistance and targeted interventions to promote buy-in can facilitate smoother implementation processes.

In the third item of Table 4.12, the mean score of 3.54 and a standard deviation of 0.78 suggest agreement among supporting staff that they lack adequate training and support to use the new Student Information System (SIS). This falls within the agreement range, indicating a perceived deficiency in training initiatives. Comprehensive training and ongoing support are crucial for user proficiency and system utilization (Honey & Kumar, 2020). Investing in training programs tailored to staff needs and providing accessible support resources can enhance user confidence and system effectiveness. Further exploration into specific training requirements and user feedback can inform targeted interventions to improve training initiatives.

In the fourth item of Table 4.12, with a mean score of 3.94 and a low standard deviation of 0.24, supporting staff strongly agreed that compatibility issues with existing systems or software may hinder the implementation of a Student Information System (SIS). This falls within the agreement range, indicating a widespread recognition of compatibility challenges. Seamless integration with existing systems is essential for data consistency and operational efficiency (Deng et al., 2017). Proactive measures such as system audits and

compatibility testing can help identify and address compatibility issues. Further exploration into specific integration challenges and stakeholder requirements can inform strategies to optimize integration efforts and minimize disruptions.

In the fifth item of Table 4.12, the mean score of 3.71 and a standard deviation of 0.57 suggest agreement among supporting staff that concerns about data security and privacy pose challenges in the implementation of a Student Information System (SIS). This falls within the agreement range, indicating a perceived impact of security concerns on implementation efforts. Data security breaches can have severe consequences for institutions and individuals (Bélanger & Crossler, 2011), underscoring the importance of addressing security vulnerabilities. Implementing robust security measures and privacy protocols can help mitigate risks and instill confidence in system users. Further exploration into stakeholder concerns and regulatory requirements can inform strategies to enhance data security and privacy protections.

In item six of Table 4.12, the mean score of 3.63 and a standard deviation of 0.77 suggest agreement among supporting staff that disruptions in college operations are anticipated during the transition to a new Student Information System (SIS). This falls within the agreement range, indicating a perceived risk of operational disruptions. Transition periods are inherently challenging and may impact service delivery and stakeholder satisfaction (Mehmood et al., 2018). Effective change management strategies such as communication plans and contingency measures are essential for mitigating disruptions and ensuring continuity of operations. Further exploration into potential areas of disruption and stakeholder communication preferences can inform strategies to minimize transition-related challenges.

In item seven of Table 4.12, the mean score of 3.77 and a standard deviation of 0.65 suggest agreement among supporting staff that customizing the Student Information System (SIS) to meet specific college requirements is challenging. This falls within the agreement range, indicating a perceived difficulty in customization efforts. Tailoring the SIS to meet institutional needs is crucial for maximizing its effectiveness and user satisfaction (McCarthy et al., 2017). Collaboration between IT teams and stakeholders, along with robust customization protocols, can facilitate smoother customization processes. Further exploration into specific customization requirements and stakeholder expectations can

inform strategies to optimize customization efforts and enhance system alignment with institutional goals.

In the last item of Table 4.12, The mean score of 2.26 and a standard deviation of 0.61 suggest disagreement among supporting staff regarding whether there is limited support or buy-in from key stakeholders for the implementation of the Student Information System (SIS). This falls within the disagreement range, indicating varying perceptions of stakeholder support. Strong support from key stakeholders is essential for driving successful SIS implementation (Aladwani, 2001), emphasizing the importance of stakeholder engagement efforts. Building alliances, addressing concerns, and demonstrating the benefits of SIS implementation can help garner support and promote collaboration. Further exploration into stakeholder expectations and communication preferences can inform strategies to cultivate stakeholder buy-in and foster a shared vision for SIS implementation.

In summary, the findings highlight various challenges faced by supporting staff in the implementation of a Student Information System (SIS) at St. Lideta Health Science College. While there is agreement on certain challenges such as resistance from staff, training deficiencies, and compatibility issues, perceptions vary regarding budget sufficiency and stakeholder support. Addressing these challenges requires a collaborative approach, including investment in training, technology infrastructure, change management, and stakeholder engagement. Further investigation into specific challenges and stakeholder needs can inform targeted interventions to overcome barriers and enhance the effectiveness of SIS implementation. Investing in the implementation of SIS aligns with broader efforts to modernize educational systems, improve operational efficiency, and enhance student support services, ultimately contributing to the college's mission and promoting its reputation.

4.5.3. Students response on the challenges in the implementation of SIS

This section presents student participants' responses regarding the challenges in implementing a Student Information System (SIS) at St. Lideta Health Science College.

In the first item of Table 4.13, the mean score of 3.74 and a standard deviation of 0.53 indicate strong agreement among participants that the lack of adequate training on how to use the Student Information System (SIS) is a challenge. This falls within the agreement range, suggesting a clear perception of the training deficiency. Adequate training is crucial

for user adoption and system utilization (Honey & Kumar, 2020), emphasizing the importance of investing in comprehensive training programs. Addressing training needs and providing ongoing support can enhance user proficiency and system effectiveness. Further investigation into specific training requirements and user feedback can inform targeted interventions to improve training initiatives.

Table 4.13: Students response on the challenges in the implementation of SIS

No	Statements	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	Mean	SD
1	The lack of adequate training on how to use the Student SIS is a challenge.	0	0	34	72	5	3.74	0.53
2	Technical issues with the SIS hinder its effective implementation.	0	0	30	72	9	3.81	0.56
3	Resistance to change among faculty/staff poses a challenge to implementing the SIS.	0	0	9	102	0	3.92	0.27
4	Insufficient financial resources are a barrier to the successful implementation of the SIS.	4	70	37	0	0	2.30	0.53
5	Difficulty in integrating the SIS with existing college systems presents challenges.	0	1	2	50	58	4.49	0.59
6	Concerns about data security and privacy impact the implementation of the SIS.	20	52	30	7	2	2.27	0.89
7	The complexity of migrating existing data to the new SIS is a significant challenge.	0	0	11	98	2	3.92	0.33

Source: Survey, 2024

In the second item of Table 4.13, with a mean score of 3.81 and a standard deviation of 0.56, participants strongly agreed that technical issues with the Student Information System (SIS) hinder its effective implementation. This falls within the agreement range, indicating a widespread perception of technical challenges. Technical issues can disrupt system functionality and user experience, undermining the overall effectiveness of the SIS (Ferreira et al., 2019). Proactive measures such as regular maintenance and system updates are essential for addressing technical challenges and ensuring system reliability. Further

exploration into specific technical issues and stakeholder experiences can inform strategies to optimize system performance and minimize disruptions.

In the third item of Table 4.13, the mean score of 3.92 and a low standard deviation of 0.27 suggest strong agreement among participants that resistance to change among faculty/staff poses a challenge to implementing the SIS. This falls within the agreement range, indicating a clear perception of resistance barriers. Resistance to change can hinder adoption efforts and impede the successful implementation of the SIS (Lapointe & Rivard, 2005). Change management strategies such as communication, training, and stakeholder engagement are essential for addressing resistance and fostering a culture of innovation (Aladwani, 2001). Further exploration into underlying reasons for resistance and targeted interventions to promote acceptance can facilitate smoother implementation processes.

In the fourth item of Table 4.13, the mean score of 2.30 and a standard deviation of 0.53 suggest disagreement among participants regarding whether insufficient financial resources are a barrier to the successful implementation of the SIS. This falls within the disagreement range, indicating varying perceptions of financial constraints. Adequate financial resources are essential for supporting implementation activities such as infrastructure upgrades and software customization (McCarthy et al., 2017). Further exploration into budget allocation practices and funding priorities can inform strategies to secure adequate resources and mitigate financial barriers. Collaboration with stakeholders and exploring alternative funding sources can also help address financial constraints and support SIS implementation efforts.

In item five of Table 4.13, with a mean score of 4.49 and a standard deviation of 0.59, participants strongly agreed that difficulty in integrating the SIS with existing college systems presents challenges. This falls within the agreement range, indicating widespread recognition of integration complexities. Seamless integration is essential for data consistency and interoperability across systems (Deng et al., 2017), highlighting the importance of addressing integration challenges. Collaboration between IT teams and stakeholders, along with robust integration protocols, can facilitate smoother integration processes. Further exploration into specific integration barriers and stakeholder requirements can inform strategies to optimize integration efforts and enhance system interoperability.

In item six of Table 4.13, the mean score of 2.27 and a standard deviation of 0.89 suggest varying perceptions among participants regarding whether concerns about data security and privacy impact the implementation of the SIS. This falls within the disagreement range, indicating some uncertainty or variability in perceptions. Data security and privacy concerns can undermine user confidence and system adoption (Bélanger & Crossler, 2011), emphasizing the importance of addressing security vulnerabilities. Implementing robust security measures, such as encryption and access controls, can help mitigate security risks and protect sensitive information. Further exploration into stakeholder concerns and regulatory requirements can inform strategies to enhance data security and privacy protections.

In the last item of Table 4.13, the mean score of 3.92 and a standard deviation of 0.33 indicate strong agreement among participants that the complexity of migrating existing data to the new SIS is a significant challenge. This falls within the agreement range, suggesting widespread recognition of migration complexities. Data migration is a critical aspect of SIS implementation, and challenges such as data quality issues and compatibility issues can arise (Mehmood et al., 2018). Comprehensive planning, data cleansing, and testing are essential for ensuring successful data migration. Further exploration into migration requirements and stakeholder expectations can inform strategies to streamline migration processes and minimize disruptions.

In summary, the findings highlight various challenges associated with the implementation of a Student Information System (SIS) at St. Lideta Health Science College. While there is agreement on certain challenges such as training deficiencies, technical issues, and resistance to change, perceptions vary regarding financial constraints and data security concerns. Addressing these challenges requires a multifaceted approach, including investment in training, technology infrastructure, change management, and data security measures. Further investigation into specific challenges and stakeholder needs can inform targeted interventions to overcome barriers and enhance the effectiveness of SIS implementation. Investing in the implementation of SIS aligns with broader efforts to modernize educational systems, improve operational efficiency, and enhance student support services, ultimately contributing to the college’s mission and promoting its reputation.

CHAPTER FIVE

SUMMARY, CONCLUSION AND RECOMMENDATIONS

This chapter presents summary of major findings, conclusions and recommendations. The purpose of this study was to assess challenges and opportunities of the implementation of student information system in St. Lideta Health Science College. To this end, a descriptive survey research design was used and mixed research approach was employed. Sources of primary data were students, instructors, management members and supporting staffs of the college. The section here below, presented the summary of the major findings.

5.1. Summary of Key Findings

Both Instructors and Supporting staff expressed concerns about the accuracy of student academic records. Instructors had a mean score of 2.38 (SD = 0.92), while Supporting staff had a mean score of 2.37 (SD = 0.49). Disparities between these groups may stem from their different perspectives and levels of involvement in record-keeping processes. Instructors, who rely heavily on accurate records for decision-making, may notice discrepancies or errors more prominently. Supporting staff, responsible for maintaining these records, may identify specific challenges or deficiencies in current procedures. Addressing these concerns through comprehensive reviews of record-keeping procedures and staff training can enhance the accuracy and integrity of student academic records.

Both Instructors and Supporting staff expressed concerns about the ease of accessing student information. Instructors had a neutral mean score of 2.50 (SD = 0.53), while Supporting staff disagreed with a mean score of 2.57 (SD = 0.50). Despite the slight difference in mean scores, both groups indicated a need for improvement in accessibility. Disparities between these groups could arise from differing expectations regarding what constitutes "ease of access" or from experiencing different challenges when accessing student information. Instructors may value quick and intuitive access to data for decision-making, while supporting staff may encounter operational barriers or technical difficulties hindering their access. Addressing these concerns through the implementation of user-friendly interfaces and targeted staff training could enhance the accessibility of student information for both groups.

Both Instructors and Supporting staff expressed concerns about the efficiency of updating student information. Instructors showed mixed opinions with a mean score of 2.38 (SD =

0.52), while Supporting staff indicated disagreement with a mean score of 2.29 (SD = 0.71). Despite the slight difference in mean scores, both groups suggested a need for improvement in updating efficiency. Disparities between these groups could stem from different perspectives on what constitutes efficiency in updating student information. Instructors may focus on the accuracy and administrative efficacy aspects, while Supporting staff may emphasize the timeliness and effectiveness of updates. Addressing these concerns through the consideration of automated systems, process streamlining, and further investigation into updating processes may enhance efficiency for both groups.

Both Supporting staff and Students expressed concerns about integration efficiency. Supporting staff participants disagreed with a mean score of 2.26 (SD = 0.82), indicating a need for evaluation, while Students generally disagreed about integration seamlessness with a mean score of 2.23 (SD = 0.62), suggesting potential challenges. Integration plays a crucial role in facilitating seamless data flow and promoting efficiency. The disparities between these groups might arise from their different perspectives and experiences with system integration. Supporting staff may focus on technical aspects and operational efficiency, while Students may assess integration based on its impact on their user experience and accessibility. Exploring specific integration challenges and evaluating integration processes could help optimize interoperability and address concerns raised by both groups.

Instructors, Supporting staff, and Students, expressed their dissatisfaction with the management of student information. Instructors' overall satisfaction received a mean score of 2.00 (SD = 0.53), indicating areas of dissatisfaction. Staff members' responses indicated disagreement with a mean score of 2.29 (SD = 0.46), suggesting areas for improvement. Additionally, Students expressed dissatisfaction with information management, with a mean score of 1.55 (SD = 0.52), indicating a need for improvement. Effective management of student information is crucial for data integrity, decision-making, and user satisfaction.

Staff members' mean score for Communication of Information Management Policies fell within the disagreement range (M = 2.34, SD = 0.48), suggesting a mixed response and underscoring the importance of clear communication for staff adherence. Conversely, in Training and Support for Managing Information, staff members' mean response was neutral (M = 2.40, SD = 0.50), indicating potential gaps in training. Addressing these gaps is crucial for enhancing staff proficiency and confidence in managing information effectively.

Students' perception of the system's contribution to their academic experience was negative (M = 1.44, SD = 0.50), indicating a significant area for improvement, with potential benefits from supportive systems and enhancements like personalized resources. Integration seamlessness received generally negative feedback (M = 2.23, SD = 0.62), highlighting potential challenges and the need for improved efficiency through integrated systems. The organization of student information at St. Lideta Health Science and business College was perceived unfavorably (M = 2.03, SD = 0.16), underscoring the importance of well-organized systems for efficient access to records and resources, warranting further investigation for enhancements. However, students overwhelmingly agreed on staff responsiveness (M = 4.21, SD = 0.62), emphasizing its importance for satisfaction and retention, with potential benefits from continued training. Support for academic advising processes received negative feedback (M = 1.70, SD = 0.77), highlighting the need for improvements in effective advising support, potentially through personalized features to empower advisors and improve student outcomes.

The mean score for perceptions about clear communication of SIS benefits was neutral (M = 2.75, SD = 0.71), indicating uncertainty among instructors. Additionally, the mean score for support from college management fell into disagreement (M = 2.25, SD = 0.46), highlighting a lack of consensus and underscoring the importance of strong leadership support for successful implementation. It's evident that transparent communication strategies and efforts to engage leadership are crucial to address uncertainties and garner support for SIS adoption. Conversely, instructors generally agreed that SIS implementation would streamline administrative processes (M = 3.63, SD = 0.74), signaling optimism about its potential benefits. Furthermore, participants instructors agreed that potential vendors or solutions for SIS implementation have been identified (M = 3.75, SD = 0.46), indicating readiness for implementation. Moreover, participants strongly agreed that SIS implementation aligns with the college's strategic goals (M = 3.88, SD = 0.35) and could enhance decision-making processes (M = 3.88, SD = 0.35), suggesting favorable conditions and potential long-term benefits. This positive outlook emphasizes the need to leverage enthusiasm and ensure effective execution for realizing the anticipated benefits of SIS implementation.

Supporting staff at St. Lideta Health Science and business College expressed varying perceptions regarding the clarity of communication about the benefits of implementing a Student Information System (SIS) (M = 3.37, SD = 0.94). While recognizing its

importance, opinions differ on its effectiveness. Similarly, there was neutral agreement regarding the potential streamlining of administrative processes through SIS implementation (M = 3.20, SD = 0.41), suggesting room for improvement in administrative efficiency. Conversely, they showed agreement on several fronts. They largely agreed on strong management support for SIS implementation (M = 3.80, SD = 0.72), readiness in identifying potential vendors (M = 3.60, SD = 0.50), and alignment with the college's strategic goals (M = 4.46, SD = 0.51). These findings emphasize the need to optimize communication strategies, streamline administrative processes, leverage management support, and ensure alignment with strategic objectives to enhance the effectiveness of SIS implementation..

Student participants at St. Lideta Health Science and business College express significant concerns about the potential benefits of implementing a Student Information System (SIS). They generally disagree that SIS implementation would streamline administrative processes (M = 1.77, SD = 0.49), improve communication between stakeholders (M = 1.55, SD = 0.61), facilitate better tracking of student progress (M = 1.38, SD = 0.49), provide more personalized support (M = 2.06, SD = 0.24), and contribute to a more efficient use of resources (M = 1.65, SD = 0.58). These perceptions indicate a lack of confidence in the potential benefits of SIS implementation, highlighting concerns about its effectiveness in addressing key operational and support needs within the college. However, statements with a mean above 2.38 suggest a more optimistic outlook among student participants regarding the overall benefits of SIS implementation. They strongly agree that implementing SIS would enhance access to academic information (M = 2.50, SD = 0.75) and believe that its implementation would be beneficial for St. Lideta Health Science and business College (M = 3.81, SD = 0.72). Despite concerns about specific aspects of SIS implementation, such as administrative streamlining and communication enhancements, students generally recognize the potential value of SIS in improving access to academic resources and enhancing overall institutional effectiveness. This positive outlook underscores the importance of addressing specific concerns and uncertainties to maximize the benefits of SIS implementation and ensure its successful integration into the college's operations and support services.

Instructors at St. Lideta Health Science and business College expressed varying perceptions regarding the challenges of implementing a Student Information System (SIS). Participants instructors acknowledged resistance from staff towards adopting a new SIS (M = 3.75, SD

= 0.46), emphasizing the importance of proactive change management strategies to address staff concerns and foster acceptance of the new technology. Similarly, concerns were raised about staff lacking adequate training and support to use the new SIS (M = 3.75, SD = 0.46), indicating the need for comprehensive training programs to ensure staff proficiency with the system. Furthermore, compatibility issues with existing systems (M = 3.88, SD = 0.35) and data security and privacy concerns (M = 3.75, SD = 0.46) were recognized as significant challenges, underscoring the importance of thorough compatibility assessments, robust security measures, and compliance with relevant regulations to safeguard sensitive information and ensure system effectiveness. Overall, addressing these challenges through proactive strategies and stakeholder engagement is crucial to ensure a successful SIS implementation and enhance institutional effectiveness.

Supporting staff at St. Lideta Health Science and business College perceive several areas for improvement in implementing the Student Information System (SIS). While there's acknowledgment of the budget's importance, opinions vary on its sufficiency (M = 2.60, SD = 0.50). Challenges such as staff resistance (M = 3.66, SD = 0.64) and perceived lack of training (M = 3.54, SD = 0.78) underscore the necessity for effective change management and comprehensive training programs. Additionally, concerns regarding compatibility with existing systems (M = 3.94, SD = 0.24), data security (M = 3.71, SD = 0.57), and operational disruptions during transition (M = 3.63, SD = 0.77) are widely recognized, emphasizing the need for strategic planning and communication. Customization challenges (M = 3.77, SD = 0.65) highlight the complexity of tailoring the system to college needs. However, perceptions regarding stakeholder support (M = 2.26, SD = 0.61) vary, suggesting the importance of targeted engagement efforts to foster collaboration and alignment.

Students at St. Lideta Health Science and business College have identified several key challenges in the implementation of the Student Information System (SIS). Among these challenges, there is strong agreement regarding the lack of adequate training on how to use the SIS (M = 3.74, SD = 0.53) and the presence of technical issues hindering its effective implementation (M = 3.81, SD = 0.56). To address these issues, it is crucial to invest in comprehensive training programs and proactive maintenance to enhance user proficiency and system reliability, respectively. Additionally, students strongly agree that resistance to change among faculty/staff (M = 3.92, SD = 0.27) and difficulty in integrating the SIS with existing college systems (M = 4.49, SD = 0.59) pose significant challenges. Implementing

change management strategies and addressing integration complexities through effective communication and stakeholder engagement are essential steps to promote acceptance and ensure seamless data interoperability. Furthermore, recognizing the complexity of migrating existing data to the new SIS (M = 3.92, SD = 0.33), comprehensive planning and testing are imperative to facilitate successful data migration. However, addressing data security concerns (M = 2.27, SD = 0.89) remains an area of variability, suggesting the need for robust security measures and compliance with regulatory requirements to instill confidence in system users and protect sensitive information.

5.2. Conclusion

Based on the findings, several potential areas for improvement at St. Lideta Health Science and business College were suggested.

The findings from both instructors and supporting staff at St. Lideta Health Science and business College underscore several potential areas for improvement in the implementation and management of the Student Information System (SIS). Concerns regarding the accuracy, ease of access, and efficiency of updating student information highlight the need for comprehensive reviews of record-keeping procedures, the implementation of user-friendly interfaces, and the consideration of automated systems to enhance system effectiveness. Research by Lee, Kim, and Park (2018) emphasizes the importance of accuracy and efficiency in SIS implementation, stating that these factors significantly impact decision-making processes and overall user satisfaction. Additionally, addressing disparities in integration efficiency among supporting staff and students is crucial, as seamless integration plays a pivotal role in promoting efficiency and enhancing user experience. The findings call for a thorough exploration of specific integration challenges and evaluation of integration processes to optimize interoperability and address concerns raised by both groups.

Moreover, dissatisfaction among instructors, supporting staff, and students with the management of student information highlights the need for improvements in communication of information management policies and training and support for managing information. Research by Tan et al. (2019) emphasizes the importance of clear communication and adequate training in successful SIS implementation, stating that these factors significantly influence staff proficiency and confidence in managing information effectively. Additionally, negative perceptions regarding the system's contribution to the

academic experience, integration seamlessness, and the organization of student information underscore the importance of addressing these concerns to maximize the benefits of SIS implementation. While challenges exist, the overwhelming agreement on staff responsiveness emphasizes its critical role in satisfaction and retention, suggesting potential benefits from continued training and support. Overall, the findings emphasize the importance of addressing identified challenges to enhance system effectiveness, improve user satisfaction, and ultimately, support the college's strategic goals and objectives.

In addition, there's a need to address uncertainties and lack of consensus among instructors regarding the clear communication of SIS benefits and support from college management. Research by Johnson and Chung (2018) highlights the crucial role of transparent communication and strong leadership support in successful SIS implementation. Efforts to engage leadership and improve communication strategies are essential to address uncertainties and garner support for SIS adoption. Furthermore, while there is optimism among instructors regarding the potential benefits of SIS implementation in streamlining administrative processes, readiness in identifying vendors, and alignment with strategic goals, effective execution is vital to realize these anticipated benefits fully. Leveraging enthusiasm and ensuring effective execution through comprehensive planning and implementation strategies are imperative to capitalize on the positive outlook and achieve successful SIS implementation.

Similarly, for supporting staff and students, there is a need to optimize communication strategies and streamline administrative processes to enhance the effectiveness of SIS implementation. Research by Smith et al. (2019) emphasizes the importance of clear communication and streamlined processes in facilitating successful technology adoption in educational settings. While there is strong management support, readiness in identifying vendors, and alignment with strategic goals among supporting staff, addressing concerns regarding communication effectiveness and administrative streamlining is crucial. Likewise, although students recognize the potential value of SIS in improving access to academic resources and enhancing overall institutional effectiveness, concerns about specific aspects such as administrative streamlining and communication enhancements need to be addressed. By addressing specific concerns, optimizing communication strategies, and streamlining administrative processes, St. Lideta Health Science and business College can maximize the benefits of SIS implementation and ensure its

successful integration into operations and support services, ultimately contributing to improved institutional effectiveness and student outcomes.

The perceptions among instructors, supporting staff, and students at St. Lideta Health Science and business College highlight several key challenges in the implementation of the Student Information System (SIS) that need to be addressed for successful integration and enhanced institutional effectiveness. For instructors, concerns regarding staff resistance, inadequate training, compatibility issues, and data security and privacy underscore the importance of proactive change management strategies, comprehensive training programs, thorough compatibility assessments, and robust security measures. These findings align with research by Al-Fraihat et al. (2017), which emphasizes the significance of addressing resistance to change, providing adequate training, and ensuring compatibility and security in SIS implementation to maximize its effectiveness. Similarly, supporting staff recognize challenges such as budget sufficiency, staff resistance, training gaps, compatibility issues, data security, operational disruptions, and customization challenges, emphasizing the need for strategic planning, effective change management, and stakeholder engagement. Research by Castro et al. (2019) supports the importance of strategic planning and stakeholder engagement in overcoming challenges and ensuring successful SIS implementation.

Likewise, students' identified challenges, including training gaps, technical issues, staff resistance to change, integration complexities, data migration concerns, and data security, highlight the need for comprehensive training programs, proactive maintenance, change management strategies, effective communication, and robust security measures. These findings are consistent with research by Mtebe and Raphael (2019), which emphasizes the importance of training, change management, communication, and security measures in addressing challenges and ensuring successful SIS implementation. Overall, addressing these challenges through proactive strategies, stakeholder engagement, and alignment with institutional goals is essential to maximize the benefits of SIS implementation, enhance operational efficiency, and improve student outcomes. The findings underscore the complex nature of SIS implementation and the importance of comprehensive planning, strategic coordination, and continuous improvement efforts to overcome challenges and realize the full potential of the system in supporting institutional goals and enhancing student success.

5.3. Recommendations

Based on the conclusions Based on the conclusions drawn from the study results, here are recommendations for addressing the areas for improvement identified to enhance system effectiveness SIS at St. Lideta Health Science College

- ✓ St. Lideta Health Science and business College better conduct comprehensive reviews of record-keeping procedures to identify areas for improvement in accuracy and efficiency. Additionally, implementing automated systems for data entry and management can help streamline processes and minimize errors. By investing in automated solutions and conducting regular audits of record-keeping practices, the college can enhance system effectiveness and improve data integrity.
- ✓ To address concerns about ease of access and integration efficiency, the college better to prioritize the development of user-friendly interfaces and optimization of integration processes. Utilizing intuitive design principles and conducting thorough assessments of integration challenges can enhance user experience and promote seamless data flow. Collaboration with external experts and vendors can provide valuable insights into best practices for interface design and integration strategies.
- ✓ St. Lideta Health Science and business College better improve communication of information management policies and implement comprehensive training programs for staff and students. By utilizing multiple communication channels, such as workshops, newsletters, and online resources, the college can ensure that stakeholders are well-informed and equipped to effectively utilize the system.
- ✓ Addressing challenges related to staff resistance and compatibility issues requires proactive change management strategies and stakeholder engagement. Utilizing change management frameworks and establishing cross-functional teams can facilitate collaboration and alignment of objectives. Regular feedback sessions and forums can also provide opportunities for stakeholders to voice concerns and contribute to decision-making processes.
- ✓ To mitigate technical issues and data security concerns, the college better implement proactive maintenance practices and robust security measures. Regular system updates, data backups, and vulnerability assessments can help prevent disruptions and safeguard sensitive information. Collaboration with cyber security

experts can provide insights into emerging threats and best practices for data protection.

- ✓ St. Lideta Health Science and business College better adopt a culture of continuous improvement and strategic planning to address evolving challenges and opportunities. By regularly evaluating system performance, gathering feedback from stakeholders, and adapting strategies accordingly, the college can ensure that the SIS remains aligned with institutional goals and supports student success.

5.4. Areas for Future Research

The researcher recommends that future research should focus on several areas.

Future study better conducts to assess SIS implementation across diverse educational contexts, including primary schools, secondary schools, vocational institutions, and higher education settings. By examining the unique challenges, opportunities, and outcomes associated with SIS adoption in different educational levels and settings, researchers can identify context-specific factors influencing implementation success and develop tailored strategies to optimize SIS usage and maximize benefits across various educational sectors.

Further, undertake a comparative analysis of different SIS platforms to evaluate their features, functionalities, and suitability for diverse educational contexts. The researches could involve assessing both proprietary and open-source systems, considering factors such as customization options, scalability, user interface design, technical support, and cost-effectiveness. By offering insights into the strengths and limitations of various SIS solutions, those studies can assist educational institutions in making informed decisions when selecting or upgrading their SIS platforms.

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Appendix-A: Questionnaire for Instructor and Supporting Staff

ST. MARY'S UNIVERSITY
SCHOOL OF GRADUATE STUDIES
Department of Project Management
Questionnaire to be filled by Instructors

Dear Respondents

This questionnaire is provided by Tsige Gorems, a master's degree student at St. Mary's University. The questionnaire is designed to collect data for the study entitled "An Assessment on the **challenges and opportunities of the implementation of student information system at St. Lideta Health Science College**" for the fulfillment of Master's Degree in Project Management (MPM). Your responses have a great importance for this survey and your answer will be treated confidentially and will only be used for the purpose of this research.

You are kindly requested to respond to the statements in the following questionnaire.

Thank you in advance

General Instruction

The respondent is kindly requested to put a tick (√) in the most appropriate box.

Section –A: Demographic Information

1.1.Gender: 1= Male 2=Female

1.2.Age : 1=Below 25 2=25 – 35 3=36 - 45 4= 46 - 55 5=Above 55

1.3.Educational Qualification: 1=Diploma 2= First Degree 3=Master's Degree 4= If other, please state_____

1.4.Years of Service: 1=Below 5years 2= 6 -10years 3= Above 10years

1.5.Work Position:_____

Section B: St. Lideta Health Science College's management of student information practice

Please indicate your responses to each of the following statements regarding, St. Lideta Health Science College's management of student information by using a sign of (√) in the appropriate answer box according to the following code of definitions.

Key: 1= Strongly Disagree; 2= Disagree; 3= Neutral; 4= Agree; 5= Strongly Agree

No	Items	1	2	3	4	5
1	The process of updating student information is efficient.					
2	Student academic records are accurately maintained.					
3	The college ensures the security of student information.					
4	Accessing student information is easy when needed.					
5	Changes in student information management policies are effectively communicated.					
6	Various student information systems are efficiently integrated.					
7	Staffs receive adequate training and support in managing student information.					
8	Overall, I am satisfied with how the college manages student information.					

Section C: Opportunities for the implementation of Student Information System (SIS) at St. Lideta Health Science College

Please indicate your responses to each of the following statements regarding, the opportunities for the implementation of Student Information System (SIS) at St. Lideta Health Science and business College by using a sign of (√) in the appropriate answer box according to the following code of definitions.

No	Items	1	2	3	4	5
1	The benefits of implementing a Student Information System (SIS) are clearly communicated.					
2	Implementing a Student Information System (SIS) would streamline administrative processes.					
3	There is strong support from college management for implementing a Student Information System (SIS).					
4	Potential vendors or solutions for implementing a Student Information System (SIS) have been identified.					
5	Implementing a Student Information System (SIS) aligns with the strategic goals of the college.					
6	Implementing a Student Information System (SIS) could lead to better decision-making processes.					
7	Overall, I see significant opportunities for the successful implementation of a Student Information System (SIS) at the college.					

Section D: Challenges in the implementation of Student Information System (SIS) at St. Lideta Health Science College

Please indicate your responses to each of the following statements regarding, challenges in the implementation of Student Information System (SIS) at St. Lideta Health Science and business College by using a sign of (√) in the appropriate answer box according to the following code of definitions.

No	Items	1	2	3	4	5
1	The budget allocated for implementing a Student Information System (SIS) is sufficient.					
2	There is resistance from staff towards adopting a new Student Information System (SIS).					
3	Staffs lack adequate training and support to use the new Student Information System (SIS).					
4	Compatibility issues with existing systems or software may hinder the implementation of a Student Information System (SIS).					
5	Concerns about data security and privacy pose challenges in the implementation of a Student Information System (SIS).					
6	Disruptions in college operations are anticipated during the transition to a new Student Information System (SIS).					
7	Customizing the Student Information System (SIS) to meet specific college requirements is challenging.					
8	There is limited support or buy-in from key stakeholders for the implementation of the Student Information System (SIS).					

9. How do you perceive the integration of the Student Information System (SIS) into your daily workflow?_____

_____

_____

_____

10. What aspects of the current Student Information System (SIS) implementation do you find most challenging, and why?_____

_____

_____

_____

11. In your opinion, what measures could be taken to address any obstacles or concerns you have regarding the implementation of the Student Information System (SIS)?_____

_____

_____

_____

Appendix-B: Students Questionnaire

ST. MARY'S UNIVERSITY
SCHOOL OF GRADUATE STUDIES
Department of Project Management
Questionnaire to be filled by Students

Dear Respondents

This questionnaire is provided by Tsige Gorems, a master's degree student at St. Mary's University. The questionnaire is designed to collect data for the study entitled "An Assessment on the **challenges and opportunities of the implementation of student information system at St. Lideta Health Science and Business College**" for the fulfillment of Master's Degree in Project Management (MPM). Your responses have a great importance for this survey and your answer will be treated confidentially and will only be used for the purpose of this research.

You are kindly requested to respond to the statements in the following questionnaire.

Thank you in advance

General Instruction

The respondent is kindly requested to put a tick (√) in the most appropriate box.

Section –A: Demographic Information

***1.1.Gender**:* *1= Male* *2=Female*

***1.2.Age** : 1=Below 25* *2=25 – 35* *3=36 - 45* *4= 46 - 55* *5=Above 55*

1.3.Your current level of education at St. Lideta Health Science and business College (in Year):

1= First 2=Second 3= Third 4= Fourth 5=Fifth

1.4. Do you know about the implementation of Student Information System (SIS) at St. Lideta Health Science and Business College? 1= YES 2=NO

Section–B: St. Lideta Health Science College's management of student information

Please indicate your responses to each of the following statements regarding, St. Lideta Health Science College's management of student information by using a sign of (√) in the appropriate answer box according to the following code of definitions.

Key: 1= Strongly Disagree; 2= Disagree; 3= Neutral; 4= Agree; 5= Strongly Agree

No	Statement	1	2	3	4	5
1	The student information provided by St. Lideta Health Science and business College is well-organized.					
2	The features of the college's student information system are easy to navigate.					
3	The student information system effectively supports academic advising processes.					
4	The integration of the student information system with other platforms is seamless.					
5	Administrative staff are responsive to inquiries related to student information.					
6	The student information system contributes positively to my academic experience.					
7	Overall, I am satisfied with how St. Lideta Health Science and business College manages student information.					

Section–C: Opportunities for the implementation of Student Information System (SIS) at St. Lideta Health Science College

Please indicate your responses to each of the following statements regarding, the opportunities for the implementation of Student Information System (SIS) at St. Lideta Health Science and business College by using a sign of (√) in the appropriate box.

No	Statement	1	2	3	4	5
1	Implementing a Student Information System (SIS) would enhance access to academic information.					
2	A Student Information System (SIS) would streamline administrative processes at the college.					
3	Integrating a Student Information System (SIS) would improve communication between stakeholders.					
4	Implementing a Student Information System (SIS) would facilitate better tracking of student progress.					
5	A Student Information System (SIS) would provide students with more personalized support.					
6	Implementing a Student Information System (SIS) would contribute to a more efficient use of resources.					
7	Overall, I believe implementing a Student Information System (SIS) would be beneficial for St. Lideta Health Science College.					

Section–D: Challenges in the implementation of Student Information System (SIS) at St. Lideta Health Science College

Please indicate your responses to each of the following statements regarding, challenges in the implementation of Student Information System (SIS) at St. Lideta Health Science and business College by using a sign of (√) in the appropriate box.

N**o**	**Statement**	**1**	**2**	**3**	**4**	**5**
1	The lack of adequate training on how to use the Student Information System (SIS) is a challenge.					
2	Technical issues with the Student Information System (SIS) hinder its effective implementation.					
3	Resistance to change among faculty/staff poses a challenge to implementing the SIS.					
4	Insufficient financial resources are a barrier to the successful implementation of the SIS.					
5	Difficulty in integrating the SIS with existing college systems presents challenges.					
6	Concerns about data security and privacy impact the implementation of the SIS.					
7	The complexity of migrating existing data to the new SIS is a significant challenge.					

8. Can you describe any specific difficulties or frustrations you've encountered while trying to use the Student Information System (SIS) at St. Lideta Health Science College?_

_____

_____

9. In your opinion, what factors or obstacles have contributed to the challenges surrounding the implementation of the SIS within our college?_____

_____

_____

10. How do you think the college could address or overcome the issues you've faced with the implementation of the Student Information System (SIS)? _____

_____

_____

Appendix-C: Interview Guiding questions for Management members

1. *How does the college currently handle the process of updating and maintaining student information?*
2. *Can you provide examples of measures taken by the college to ensure the security and accuracy of student academic records?*
3. *What strategic benefits do you envision the implementation of a Student Information System (SIS) bringing to the college?*
4. *How do you perceive the readiness of the college, including its infrastructure and staff, for integrating and utilizing a new Student Information System (SIS)?*
5. *What potential obstacles or challenges do you anticipate in the implementation process of a Student Information System (SIS)?*
6. *How do you plan to address concerns regarding data security, privacy, and staff resistance during the transition to a new Student Information System (SIS)?*

Appendix-D: Interview Guiding questions for department heads

1. *As a department head, how do you perceive the current processes for managing student information within your department?*
2. *Can you share any specific challenges or successes your department has encountered regarding the management of student information?*
3. *From your perspective, what are the potential benefits that a Student Information System (SIS) could bring to your department and its operations?*
4. *How do you envision leveraging a Student Information System (SIS) to enhance collaboration and communication within your department?*
5. *What are your main concerns or reservations about the implementation process of a Student Information System (SIS) within your department?*
6. *How do you plan to mitigate any potential disruptions or challenges that may arise during the transition to a new Student Information System (SIS)?*