Effective use of management information systems for monitoring education projects: Evaluating determinants among secondary school workers in the City Council of Dodoma, Tanzania

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ABSTRACT

This paper evaluates the determinants of effective management information systems (MIS) for monitoring education projects in the City Council of Dodoma, with a specific focus on secondary school workers, including Education Officers, Ward Education Officers, ICT Officers, head teachers, and teachers. While the study was guided by Resource-Based Theory (RBT) and Technology Acceptance Model (TAM), the study adopted a cross-sectional research design. The target population comprised 1673 people involved in school data management, including statisticians, heads of public secondary schools, ward education officers, and the district educational officer in the City Council of Dodoma. The study used simple random sampling techniques. Data were collected from a sample of 323 respondents from school statisticians, heads of public secondary schools, Ward Education officers, ICT officers, Statistics and Logistics officers, City education officers, and teachers, using semi-structured interviews, focus group discussions, and questionnaires. The collected data were analyzed using the Statistical Package for the Social Sciences (SPSS) and thematic analysis. On the issue of Extent of Use of MIS in the Monitoring of Education Projects, the study found that MIS is used in various ways including Data collection and distribution of educational resources, resource management, including Tracking and Utilization of Resources, supports decision-making processes, used as a tool for generating reports, facilitated school management operations, helps to monitor projects and programs and contribute to improved data quality. Also, the study found that MIS Users' Related Factors Affecting the Effectiveness of MIS for Monitoring of Education Projects, such as User training, User involvement and support, User Motivation, System Usability, Level of Commitment, and Time to Fill MIS. Finally, the study identified MIS-related factors influencing the Effectiveness of MIS for monitoring education projects, including Data Security and Privacy, data timeliness, Data Quality, System Integration, and stakeholder engagement. The study concludes that Management Information Systems (MIS) play a crucial role in monitoring and evaluating education projects. MIS helps track progress, analyze data, manage resources, and support decision-making. By providing accurate and timely information, MIS can improve the efficiency and effectiveness of education projects. It is essential for project managers and education stakeholders to recognize the importance of MIS in ensuring the success of education initiatives. The study recommends that the Department of Secondary Education in Dodoma City Council, in collaboration with the President's Office, the Regional and Local Government Authorities, should provide comprehensive and ongoing training for users of the MIS system to ensure they fully understand how to utilize it effectively for monitoring education projects. This training should cover not only the technical aspects of the system but also how it can be used to gather and analyze data for decision-making.

Keywords: Determinants, Education Projects, Information Systems, Management Information Systems, Monitoring, Projects, Secondary Schools

I. INTRODUCTION

The need for Management Information Systems (MIS) emerged in the United States in the 1960s, primarily for financial resource applications in business, beginning with the integration of Information Technology (IT) into education to enhance educational quality (Joseph, 2011; Masumbuko, 2022; Bernabaum & Moses, 2011; Mbawala et al, 2024); Christopher, 2013). While concentrated on computational and administrative applications, MIS was utilized by school administrators to produce report cards, streamline administrative activities, and oversee educational programs in Caribbean nations. By the 1980s, modules had been developed to enhance educational management (Baiden et al, 2023). Other countries are experiencing the same, including the African continent.

Evidence from Africa demonstrates that educational leaders extensively utilize MIS to manage educational data at the school and national levels. This is particularly evident in the processes of data collection, verification, analysis, integration, and storage, which aim to enhance educational data management practices and achieve reliable data and information. Odusanya (2019) and Ellison (2014) noted that educational administrators in Nigeria use MIS to gather, analyze, and disseminate empirical data to facilitate planning, resource allocation decisions, and the efficient monitoring and assessment of school operations. Asare and Tufuor (2021) assert that Ghana exemplifies a nation that utilizes a decentralized system for managing educational data for planning, budgeting, monitoring, and facilitating change at

various levels; however, it predominantly falters due to insufficient commitment and accountability among educational leaders. The implementation of contemporary information systems aims to mitigate data anomalies that may impact educational components, including planning, monitoring, evaluation, decision-making, and policy formulation. While this is happening in various African countries, Tanzania is not left behind.

In Tanzania, MIS originated in the 1960s, following national independence, when the government established a statistical unit within the Ministry of Education. The Ministry of Education began publishing its manual on national statistics in tabular form in the 1980s. In the 1990s, advancements in technology led to the introduction of computer applications primarily for data processing, using COBOL as the programming language to consolidate and effectively manage data collected at the school or district level (Suhardi & Fahmi, 2025; Joseph, 2011; Christopher, 2013; Bernabaum & Moses, 2011). The MIS plan was implemented in 2004, emphasizing the installation of a user-friendly database and enhancing the capacity to create, disseminate, and utilize data for diverse objectives, including the planning, monitoring, and evaluation of educational programs (United Republic of Tanzania (URT), 2004). During the Joint Education Sector Review (JESR) in 2006 and 2007, the government, in conjunction with development partners and other educational stakeholders, recognized the necessity for a unified information system capable of producing data for planning and budgeting (Suhardi & Fahmi, 2025). In January 2008, the Tanzanian government launched the Education Sector Management Information System (ESMIS) program (2008 – 2010) to strengthen management information systems and establish a comprehensive monitoring and evaluation framework for the Education Sector Development Program (ESDP). The MIS project implemented a new database and software across all sub-sectors, supplied computers and internet equipment, and uploaded the sector databases, along with the Basic Education Statistics of Tanzania (BEST), to the ministry's website (Masumbuko, 2023). The Education and Training Policy (ETP) of 2014 highlights inconsistencies in educational data, necessitating measures to ensure the quality, reliability, relevance, and legitimacy of data for various educational purposes, including monitoring and evaluation.

The efficacy of MIS in Dodoma City is significantly undermined, as evidenced by persistent data discrepancies and challenges in educational decision-making and planning. Despite substantial efforts to educate MIS workers, reports indicate that the expected improvements in data quality and utility have not yet materialized. A survey by Ndazi (2021) indicated that more than 65% of School Statisticians (SS) had challenges with the proper collection, compilation, and reporting of educational statistics, thereby compromising the quality of information available for decision-making. Furthermore, Ideva (2015) emphasized that over 70% of Heads of Schools (HoS) in Dodoma City expressed concerns about antiquated data systems and the lack of real-time data access, which significantly impairs their capacity to evaluate and improve educational outcomes efficiently. Masumbuko's (2022) findings emphasize that decision-making processes in Dodoma City frequently depend on inaccurate data, thereby undermining the efficacy of initiatives aimed at improving educational quality. Mbawala et al. (2024) conducted a thorough investigation into the consequences of inadequate Management Information Systems (MIS) on monitoring teacher performance across multiple schools, indicating that approximately 60% of primary schools failed to achieve their educational goals due to erratic data management and reporting practices. This scenario creates a cycle of inefficiency, in which the lack of reliable information leads to misguided decisions, insufficient resource allocation, and, eventually, inferior educational outcomes for pupils in the area.

Moreover, the regional education authorities have stated that the inefficacy of the Management Information System (MIS) has hindered the supervision of educational programs aimed at improving learning environments and increasing student engagement. Internal analyses reveal that only 40% of the anticipated educational initiatives in Dodoma have been implemented, largely due to inadequacies in data collection and processing. The results demonstrate an immediate necessity to rectify MIS shortcomings in Dodoma City to improve the oversight and evaluation of educational programs. Without focused interventions to enhance the infrastructure and skills necessary for effective MIS operations, the ongoing educational challenges in Dodoma continued to adversely impact the educational environment for both students and educators. The study is warranted by the function of MIS in delivering relevant, useful, and accurate data to facilitate diverse educational goals. Assessing the effectiveness of management information systems in managing educational projects enables stakeholders in Dodoma City and its surrounding district in Tanzania to recognize the importance of MIS data for efficient project oversight. This study aims to evaluate the factors influencing the efficacy of management information systems in monitoring educational projects.

1.1 Research Questions

i. To what extent is MIS used for education project monitoring?
ii. How are the factors related to MIS users affecting the effectiveness of MIS for monitoring of education projects?
iii. How do factors related to Management Information Systems (MIS) influence the monitoring of education projects?

II. LITERATURE REVIEW

2.1 Theoretical Review

2.1.1 Resource-Based Theory (RBT)

The Resource-Based Theory (RBT) of a firm or organization was developed by Edith Penrose (1959). It argues that resources can lead to higher organizational performance. The model is useful for understanding the role of effective management of an organization's resources and how production opportunities can lead to high organizational performance (Kor & Mahoney, 2000; Kor & Mahoney, 2004). Penrose (1959) defined resources as assets and capabilities. Assets are all facilities used in the production process, and capability is the firm's ability to deploy available resources to achieve maximum productivity. The RBT's focus was on the organization's performance from a managerial perspective. It explains how scarce resources can effectively be utilized to achieve high organizational performance (Kozlenkova et al., 2014). Penrose assumed that each organization owns unique resources that make it more profitable; competitive advantages differ due to the heterogeneity of resources and the organization's human resource capabilities. The theory assumes that having assets without the capabilities (human resources) to deploy them is a waste. The implication of the theory for this study is that proper managerial considerations, such as effective planning of educational resources and efficient coordination of physical and non-physical resources within the educational institution, will result in effective education data management and, hence, the production of reliable and credible educational data.

2.1.2 Technology Acceptance Model (TAM)

The Technology Acceptance Model (TAM) by Davis (1989) is a theory of information systems that explains how individuals adopt and use technology. The actual use of the system is the endpoint at which individuals access technology. Behavioral intention is a consideration that encourages individuals to access the technology. The behavioural intention is informed by attitude, which is the overall impression of the technology (Davis, 1989). This theory assumes that when a new technology is introduced to users, a variety of considerations influence their decisions about how and when to use it. As shown in Figure 1 below, the acceptance and use of information technologies can bring immediate and long-term benefits at the organizational and individual levels, such as improved performance, financial and time efficiency, and convenience (Davis et al., 1989; Davis et al., 1992; Davis, 1993). The potential of technology to deliver benefits has long motivated IS management research to examine individuals' willingness to adopt innovative technology (Davis, 1989).

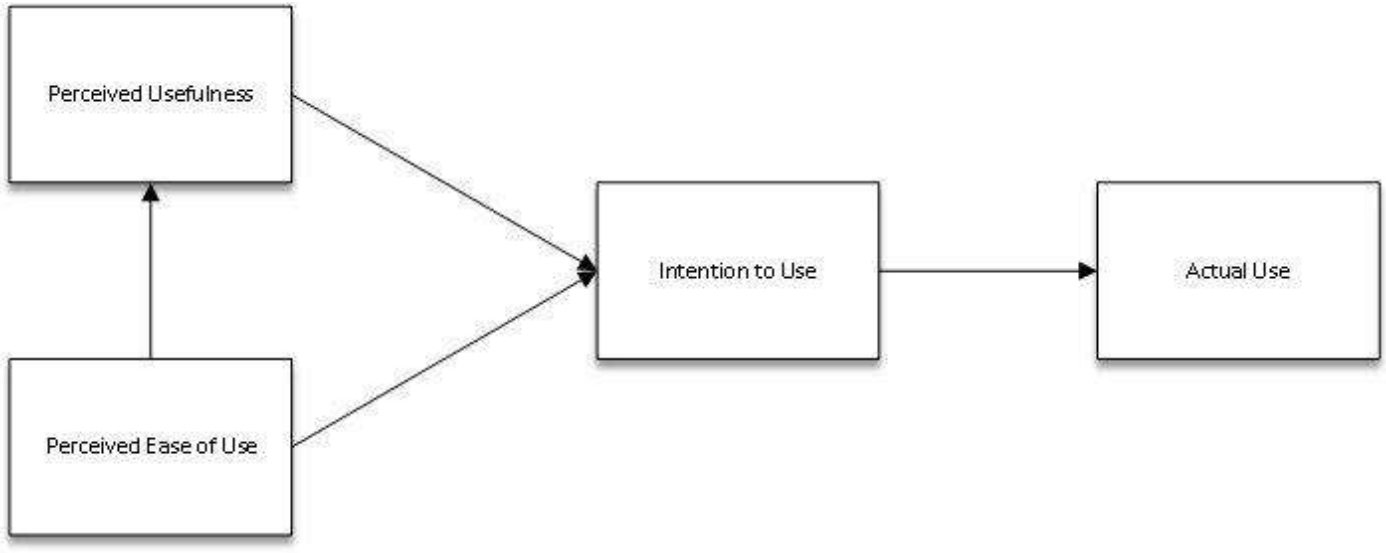

Figure 1
Technology Acceptance Model (TAM) (source: Davis, 1989)

As shown in Figure 1 above, TAM theory is relevant to this study because it explains the variables related to the study's objectives. The more the MIS user perceives the technology to be easy to use, the more they will contribute to effective project monitoring. The challenges in integrating technology to manage data for different purposes, including monitoring, where school management and other educational leaders will find strategies to overcome difficulties in integrating technology use to ensure effective data management. (Davis et al., 1989; Davis et al., 1992).

2.2 Empirical Review

2.2.1 Extent of Use of MIS in the Monitoring of Education Projects

Alexander (2015) conducted a study on the tension associated with the implementation of EMIS in the Bahamas, based on the experiences of heads of schools, using a case study approach, and found that heads of schools perceived EMIS as a tool for generating report cards, facilitating school management operations, and monitoring programs. It was pointed out that the technological infrastructure in the Bahamas' schools was well established, although the major challenge remained the shortage of funds to maintain the systems and build capacity. These challenges could affect the provision of education data and, in turn, the school project's education monitoring.

Ejimofor and Okonko (2022) conducted a study on the influence of educational systems on data management in public secondary schools in Anambra State, Nigeria. The study found that the use of EMIS by heads of Schools facilitated the collection of relevant data and information, thereby enhancing the distribution of educational resources to schools. However, it was disclosed that the main challenge was that most educational managers lacked adequate knowledge of computer applications, which seems like a basic requirement for information systems operations. Similarly, Gxwati (2011) and InforDev (2006) conducted studies analyzing education management information systems to determine whether the Free State education department in South Africa used them and whether they were reliable and credible. The study was based on constructs of the information system success, such as data quality, system quality, and organizational impacts, to evaluate the education information system under investigation. The findings revealed that determinants of effective management information systems contributed to improved data quality in the provincial database. Moreover, the study argues that managerial skills play a critical role in the success of information systems operations. This implies that the system's managerial characteristics may positively or negatively influence the data collection, analysis, verification, and dissemination to the users.

Msigwa and Ngirwa (2023) conducted a study to assess the prospects of effective management of educational data in Mbarali district. The study found that effective decision-making, error minimization in educational data collection, and cost-effective, efficient operations were positively influenced by effective data management. The study recommended that current technology be used to manage data in educational institutions, with data management systems and tools available and up to date to ensure data security and reliability. On the other hand, Ngeze (2017) investigated the use of MIS to enhance data quality in secondary schools in Tanzania's Biharamulo district. The study found that educational stakeholders had limited awareness of MIS due to insufficient training in effectively operating the MIS system. The study concluded that the extensive use of MIS in secondary schools does not enhance the data quality in education.

2.2.2 MIS users' Related Factors Affecting the use of MIS for Monitoring the Education Project

Bravo et al. (2022) conducted a quantitative study of higher education managers' perspectives on quality management and technological acceptance, using a sample of 70 educational managers from Chilean educational institutions during the COVID-19 pandemic. The findings revealed that people in management positions play a great role in information processes. That is, identifying education leaders' potential and/or training them accordingly enables more effective implementation of information systems, thereby strengthening institutions' dissemination of quality information for proper decision-making. Similarly, Alexander (2015) conducted a study of school leaders and EMIS implementation in the U.S.A. A study on school leaders and EMIS implementation found that principals often perceived EMIS as a source of conflict, and the primary uses of the technology were generating report cards, facilitating school administrative tasks, and monitoring projects.

Schildkamp et al. (2019) the study focused on how school leaders and teachers use educational data from various sources to improve the quality of education. The study's findings showed that the process of data use was influenced by system-, organizational-, and team-level factors (Jin et al, 2025). The study concluded that data literacy and leadership skills are essential considerations for making effective and efficient use of educational data and information. In African countries, MIS is highly valued because it provides reliable, timely, and consistent data to support educational decision-making. Capacity-building has been provided to improve EMIS staff's ability to collect high-quality data. The use of modern technology, such as phones and computers, increases the speed at which timely, high-quality data is generated. Gazehega and Mandefro (2019) indicate that Nigeria had relied on manual financial information systems but has only recently begun to employ technology to prepare, store, process, and communicate financial data. At the school and district levels, it was unable to provide timely financial data for verification in Nigeria. As a result of this flaw, a new system was needed to overcome the weaknesses of analogous technology by developing an effective financial information system that provides timely, up-to-date information on budget execution. Likewise, MIS in Ethiopia switched from a paper-based to a computerized financial information system to improve the efficiency and effectiveness of obtaining and supplying financial data for a variety of purposes, including financial planning, budgeting, monitoring, evaluation, and decision-making.

Masumbuko (2022) and Jin et al. (2025) found that the fund is very important for using information systems, such as MIS, to prepare school data, because educational leaders, especially HOS, WEO, and SST, need funds to run education system activities, such as purchasing internet bundles and covering stationery costs incurred during the preparation of school data. Furthermore, Ideva (2015) revealed that the availability of funds improved infrastructure, and purchasing ICT equipment from the micro level to the macro level is crucial for facilitating educational data collection activities. Likewise, Luena (2012) revealed that capacity building is provided by top management from SLO offices to school heads and teachers who complete the questionnaire, ensuring the provision of accurate, timely, and relevant data to support education aspects, including monitoring and evaluation. Gazehega and Mandefro (2019) show that there is a need for ongoing training for EMIS users across the production, management, and utilization processes, for various purposes, including monitoring. Furthermore, Gazehega and Mandefro (2019) found that professionals with skills and knowledge in managing educational data are employed to ensure that data collection is conducted smoothly and purposefully, yielding data useful for educational planning and monitoring. Therefore, training and capacity building were determinants of an effective management information system for educational monitoring.

In the management of educational resources, quality, and reliable information and data are substantial (Wyk, 2006). The most crucial resources for managing education data include human, physical, financial, and time resources. Effective management of these resources yields high-quality data. Currently, all MIS activities have been digitized and operate as a unit within the Ministry of Education, Science, and Technology's planning and policy department (URT, 2018). To cope with the situation and adhere to the rapid advancement in information technologies, human resource capacity building through in-service training programs, workshops, and seminars was organized and provided to educational leaders, mostly at the local level in schools and districts, as the main source of primary data, and other stakeholders responsible for the systems . Head of school, Ward Education Officers, and District Education Officers, as education leaders responsible for the system's operations, were equipped with the knowledge and skills to use computer technology as a basic requirement for system operations. However, the literature shows that most of them face difficulties in integrating digital competencies to produce high-quality educational data and information and to manage information systems effectively (Manyengo, 2021).

According to Masumbuko (2022), HOS and SST were involved in data collection by manually completing secondary schools' statistical questionnaires and entering the data into the School Information System (SIS), before the data were verified by WEO and approved by the SLO and DEO responsible at the district level. This implies that MIS players or actors should know how to collect and verify data to manage and use accurate, relevant data for decision-making, policy formulation, and education planning (Luena, 2012). Moreover, the provision of EMIS facilities, such as a computer and a printer, is a determining factor in the use of MIS. The provision of MIS facilities, such as computers, simplifies and enables quicker information sharing than an analogue system. Also, with computer facilities, it is possible to retrieve and store educational data (Nkata & Dida, 2020). Therefore, the provision of MIS facilities is very important for facilitating and supporting various MIS functions, such as retrieving and storing data for different educational purposes, including monitoring.

2.2.3 Factors related to MIS influencing the effective monitoring of education projects

An effective management information system (MIS) is crucial for monitoring and evaluating education projects, as it provides real-time data and insights to help project managers make informed decisions. Several studies have highlighted the significance of MIS in improving the efficiency and effectiveness of education projects. In a recent study conducted in the UK, Martin and Rainer (2017) found that schools that implemented a robust MIS were able to track student performance more accurately and identify areas for improvement. The study also highlighted the role of MIS in streamlining administrative processes and ensuring better resource allocation in schools. Likewise, in the UK, a study by Baiden et al (2023) found that the use of MIS in monitoring education projects has significantly improved project planning, implementation, and evaluation. The study highlighted that MIS has enabled project managers to track progress, identify bottlenecks, and make informed decisions to ensure project success.

A study by El-Ebiary et al. (2016) examined the impact of an MIS on monitoring and evaluation in higher education institutions. The researchers found that institutions that invested in a comprehensive MIS were better equipped to assess the outcomes of their educational programs and to make data-driven decisions to improve student learning. In addition, in the USA, Asio et al (2022) examined the impact of MIS on education project management. The study found that MIS has helped project managers to monitor and evaluate project performance, allocate resources effectively, and enhance collaboration among project stakeholders. The study concluded that MIS is critical for the success of education projects in the USA.

Similarly, a study by Ary et al. (2010) in U.S.A explored the role of MIS in monitoring and evaluating education projects in the digital age. The researchers emphasized the importance of a user-friendly MIS that provides timely, relevant information to stakeholders, including policymakers, educators, and parents. In Kenya, a study by Adhikari & Budhathoki (2025) examined the challenges and opportunities of implementing an MIS in the education sector. The

researchers found that while there were initial teething problems in implementing the MIS, it ultimately led to improved monitoring and evaluation of education projects and better accountability among stakeholders. Moreover, in Kenya, Adhikari and Budhathoki 2025) conducted a study on the extent of MIS use in education project monitoring. The study found that MIS has revolutionized project monitoring in Kenya by providing timely and accurate information to project managers and stakeholders. The study emphasized the need for further investment in MIS to enhance project monitoring and evaluation in the country. A study by Mbawala et al. (2024) focused on the impact of an MIS on tracking teacher performance and student outcomes in primary schools. The researchers found that schools that used an MIS were able to identify underperforming teachers and implement targeted interventions to improve student learning outcomes.

III. METHODOLOGY

3.1 Research Design

This study adopted a cross-sectional research design. Cross-sectional studies are observational and are also known as descriptive research (Creswell, 2009; Anney, 2014). This design was adopted in this study because it enabled the researcher to collect more data at a single point in time and to effectively address the research problem.

3.2 Study Area

The study was conducted in the City Council of Dodoma, located at the South-eastern end of the Tanzania Central Plateau at an elevation of 1,200 meters above sea level, at the center of the country on the vital central railway line (URT, 2018; Omari, 2011). The study area is among those facing educational challenges. The researcher's awareness and familiarity with the area were among the reasons for choosing the research area to facilitate data collection (Anney, 2014; Venkatesh et al., 2003; Ary et al., 2010). Familiarity with the area helped the researcher collect in-depth information from respondents in a timely manner. Primary data were provided by school statisticians, heads of public secondary schools, Ward Education officers, ICT officers, Statistics and Logistics officers, City education officers, and teachers.

3.3 Sampling Techniques and Sampling Size

The study's sampling frame comprised 1673 people involved in school data management, including statisticians, heads of public secondary schools, ward education officers, and the district educational officer in the City Council of Dodoma. A total of 20 public secondary schools served as the sampling frame for the city council of Dodoma. The sample unit of this study comprised an officer directly involved in education data management, whether a school statistician, head of a public secondary school, Ward education officer, or teacher, from 20 public secondary schools in the City Council of Dodoma. In this study, the key informants included the SLO, the ICT officer, and the CEO. This study included 323 respondents, drawn from a total population of 1673. Yamane's formula for a known population was applied.

$$n = N/ (1+Ne^2) \quad \ldots\ldots\ldots\ldots (1)$$

Whereby:

n = sample size, N = population size, e = margin error = 0.05

n = 1673/ (1 + 1673 (0.05)2)

n =1673/ (1 + 1673 (0.0025))

n = 1673/ (1 + 4.1825)

n = 1673/ (5.1825)

n = 323.48

Then, the sample size was 323 participants

3.4 Data Collection Methods and Tools

The study used several data collection tools, including semi-structured interviews, focus group discussions, and questionnaires. The face-to-face interview allowed flexibility, enabling the researcher to rephrase questions for clarity. Before collecting data, questions were prepared in line with the research objectives. A questionnaire was used to collect quantitative data. Finally, the study used focus group discussions to collect data; each discussion lasted 40 to 60 minutes, and the researcher recorded and noted key information. There were five Focus Group Discussions (FGDs) that covered the objectives for data collection from teachers. One 30-45-minute FGD was held at each sampled school, with gender balance considered as much as possible.

3.5 Data Analysis

The collected data were analyzed qualitatively through thematic analysis and quantitatively using IBM SPSS Statistics version 22 (Anney, 2014; Ary et al., 2010). The qualitative data were drawn from interviews and explanations, while the quantitative data were drawn in quantitative form. The data collected from the questionnaire were systematically coded and entered into IBM SPSS for comprehensive analysis, which included generating tabulations and graphics to present the findings effectively. The analysis aimed to summarize the observed facts using percentages, frequencies, and other statistical measures, ultimately providing a clear understanding of the results. This methodical approach enables visualization of data trends and patterns, facilitating better interpretation and deeper insights into the use of Management Information Systems (MIS) in educational project monitoring (Creswell, 2009).

Descriptive analysis was chosen as the primary methodological approach because it allows for the systematic summarization of data to capture the current landscape of MIS use in education project monitoring. This approach facilitates a detailed understanding of current practices, user demographics, and the MIS characteristics that contribute to effective project management. By employing descriptive statistics, the researcher presented clear, quantitative insights and highlighted usage patterns and trends, which are crucial for understanding how MIS are optimized in the context of education. This analytical framework ultimately enhances the validity of the findings, enabling stakeholders to make informed decisions based on observed data rather than assumptions, thereby strengthening the study's overall impact. In addition, in objectives number two (2) and three (3), factor analysis was employed to analyze data collected in the aforementioned objectives. The findings are presented in Tables and Text to provide the results of the study in sufficient detail, arranged to enable each reader to easily comprehend them and determine for themselves the validity of the conclusions.

3.6 Ethical Consideration

The researcher had a moral obligation to strictly consider the rights of the participants who were expected to share their experiences. Therefore, ethical considerations were an important aspect of this study. Due to the sensitive nature of the study, potential risks were continuously assessed to ensure greater sensitivity to participants and avoid exposure. In this study, the researcher considered it very important to establish trust with the participants and respect them as self-directed individuals, thereby enabling them to make sound decisions. Ethical measures and conduct regarding participants' information, as well as honest reporting of results, were important in this research. The ethical measures observed in this study include obtaining research permission, obtaining assent and consent, maintaining confidentiality and anonymity, protecting privacy, providing the right to withdraw from the study, protecting against exploitation and harm, involving the researcher, and disseminating results.

IV. FINDING & DISCUSSION

4.1 Demographic Information of Respondents

Table 1 shows the distribution of respondents by sex, category, education, and years of work experience. Demographic considerations change our understanding of successful management information systems for monitoring education projects.

Table 1

Demographic Characteristics of Respondents

Variable	Category	Frequency	Percentage
Sex	Male	173	53.5
	Female	150	46.5
	Total	**323**	**100**
Education level	Diploma	18	4.95
	Bachelor Degree	259	80.2
	Master Degree	32	9.9
	Doctorate	18	4.95
	Total	**323**	**100**
Working experience	1-5	100	30.96
	6-10	80	24.77
	11-15	60	18.60
	16-above	83	25.69
	Total	**323**	**100**

Table 1's demographics reveal the respondent pool and can help us comprehend MIS in educational project monitoring. Sex, education, and work experience all affect perceptions of MIS deployment and use, as well as efficacy.

4.2 Gender Distribution

Table 1 shows a slight male dominance with 53.5% males and 46.5% females. This shows that gender affects corporate technology management and views. Men may be more comfortable with technology than women since they are more involved in STEM disciplines (Deselia & Sinaga, 2024).

4.3 Educational Attainment

According to Table 1, 80.2% of respondents have bachelor's degrees, 9.9% have master's, and 4.95% have PhDs. Higher education may improve the usability of complex information systems. Martin and Rainer (2017) observed that higher education levels often improve technical proficiency and technology critical thinking, suggesting that most respondents can use and understand MIS. Research suggests that higher education improves critical thinking and analytical skills needed to understand and use MIS in education (Daulika et al., 2025). Education project monitoring improves when advanced degree holders use new technologies and approaches.

4.4 Years of Working Experience

The distribution of respondents' job experience is fair, with 30.96% having 1-5 years and 25.69% having over 16 years. Results showed that job experience improves management information system skills. Experienced people can apply and customize MIS to meet project demands, drawing on earlier implementations or failures. This mix of experience can encourage innovation in school management and knowledge exchange (Utecht, 2022).

4.4.1 The Extent of Use of MIS in the Monitoring of Education Projects

The primary objective was to evaluate the use of Management Information Systems in monitoring educational projects. The researcher aimed to obtain quantitative data alongside participants' perspectives, experiences, and opinions regarding the application of Management Information Systems in educational project monitoring. A mixed-methods study was employed to ascertain how Management Information Systems (MIS) oversee elements of educational projects. Table 2 below shows that the quantitative analysis was initially conducted using survey data from educators, project managers, and administrative personnel.

Table 2

The Extent of Use of MIS in the Monitoring of Education Projects (n=323)

Extent of Use of MIS in the Monitoring of Education Projects	Very Ineffective		Ineffective		Effective		Very Effective	
	n	%	n	%	n	%	n	%
Used in Data collection and distribution of educational resources	36	11.1	42	13.0	86	26.6	160	49.5
Used in resource management, including Tracking and Utilization of Resources	24	7.4	31	9.6	105	32.5	163	50.5
Supports decision-making processes	5	1.5	9	2.8	123	38.1	186	57.6
Used as a tool for generating reports	8	2.5	11	3.4	103	31.9	201	62.2
Facilitated school management operations	1	0.3	2	0.6	134	41.5	186	57.6
Helps to monitor projects and programs	4	1.2	6	1.9	123	38.1	190	58.8
Contribute to improved data quality	2	0.6	4	1.2	106	32.8	211	65.3

Table 2 shows that 49.5% (160 respondents) use MIS for data collection and educational resource distribution and find it effective. However, 26.6% claimed effective, 13.0% ineffective, and 11.1% very unsuccessful. Tracking student attendance, academic achievement, teacher effectiveness, and project outcomes was revealed. Interview with the school CHOS confirmed this:

> *"Our Management Information System plays a crucial role in helping us monitor the progress and impact of our education projects. It allows us to track student attendance, academic performance, and teacher effectiveness on a regular basis."(Interview with HOS from school C, October 18, 2025)*

The HOS from school C proposes implementing a Management Information System (MIS) in education projects to better track student attendance, academic performance, and teacher effectiveness. Alexander (2015) used a case study approach to study the tension associated with MIS implementation in the Bahamas and found that heads of schools saw MIS as an effective tool for generating report cards, facilitating school management operations, and monitoring programs. Table 2 indicates that MIS has been used to track and use resources. Of respondents, 50.5% stated MIS is very effective, 32.5% said it is effective, 9.6% said it is ineffective, and 7.4% said it is very ineffective. In the interview, the school head said:

"Our MIS has been instrumental in helping us track the progress of our education project. We have been able to closely monitor enrollment, attendance, and academic performance, allowing us to make informed decisions for the benefit of our students."(Head of School, October 18, 2025)

Interviewees emphasized the importance of timely access to detailed MIS reports to address low enrollment or attendance. This blend of quantitative and qualitative data showed that MIS could follow progress and enable targeted interventions in the education project using real-time data analysis (Aljabri, 2019). In 2023, Msigwa and Ngirwa examined the potential for educational data management in Mbarali district. Effective data management improved decision-making, minimized errors in instructional data collection, and enabled cost-effective, efficient operations, according to the study. This is also supported by Aljabri (2019), who notes the importance of using MIS for data collection to improve quality.

The sentence implies the organization tracks and improves student achievement with MIS. By tracking enrollment, attendance, and academic performance, they can make student-friendly decisions. As Gazehega and Mandefro (2019) found, MIS in education improved the tracking and identification of student progress. Data tracking increases student results. Enrollment and attendance let teachers act fast. A meta-analysis of education MIS studies by Olwenyi et al. (2025) found that it increases student success and school administrators' decision-making. Researchers emphasized data-driven decision-making to improve educational achievements. Alexander (2015) found MIS systems helpful in school management. They found that tracking student performance and attendance helps teachers identify at-risk students and provide academic support. The interview and FGD also demonstrated the importance of a good MIS system for school project management and information tracking.

"The data collected through the MIS has enabled us to identify areas of concern and take proactive measures to address them. It has been a valuable tool in tracking different aspects in education, for instance, student performance progress and the success of our education initiatives." (Head of School 3, October 18, 2025)

"The MIS has enabled us to track progress on enrollment rates, attendance patterns, and completion rates effectively. This information has been essential in guiding our tracking education information and improving the overall effectiveness of our education project." (FGD with teachers from school 3, October 18, 2025)

"We rely heavily on our Management Information System to monitor and manage our resources effectively. It allows us to track our budget, procurement, and inventory in real-time, ensuring that we are always using our resources efficiently and effectively."(Interview with Head of School from School B, October 18, 2025)

According to the HoS and the School Statistician, the MIS has helped them analyze enrollment, attendance, and completion rates. This data aids in tracking education projects and their effectiveness. The MIS delivers data and insights to improve education and project success. It also emphasizes statisticians' analysis and interpretation of MIS data to track school performance. Alexander (2015) found that schools with a complete MIS system tracked student progress, identified at-risk students, and provided targeted interventions, boosting student and teacher performance. The project emphasizes data-driven decision-making in education to improve student outcomes. Furthermore, Alexander (2015) found that MIS schools tracked student progress, attendance, and areas for improvement more effectively. This enhanced resource allocation, targeted interventions, and student performance. The findings show that MIS enhances education decision-making, resource allocation, and outcomes. Statistics professionals examine MIS data to enhance decision-making and educational project performance.

57.6% thought MIS supports decision-making well. The respondent agreed, saying

"Our MIS is essential in providing us with accurate data on the decision-making process. With this information, we are able to make informed decisions on how to best allocate resources to support our educational projects and avoid any potential wastage."(FGD with teachers, November 2, 2025)

Having an essential MIS system allows the business to make informed decisions about resource allocation and usage, which improves support for educational projects. Since reliable data is readily available, the company may detect resource needs and reduce waste. This maximizes resource use, ensuring the success of educational projects. Alexander (2015) that MIS aids decision-making. The data obtained were then evaluated using thematic analysis to uncover patterns and themes related to MIS's ability to solve project-specific problems. We also examined the education project's KPIs to assess how MIS enabled real-time monitoring and evaluation. The findings showed that MIS improves decision-making by providing timely, reliable data for project planning and implementation. Stakeholders noted that MIS helps project managers identify areas for improvement and choose the best methods to fulfill project goals. MIS's real-time key performance indicator data was also important for monitoring education projects. With this capability, project managers can continuously review actions and make data-driven decisions to improve project outcomes. An interviewee noted:

> *"It happened once when one of our leaders made a particular decision towards a teacher that made other teachers angry and disappointed. This had seriously affected them psychologically, especially after realizing that the decision made was wrong. Some of us were made to believe that the decision was correct. We didn't know the decision was based on incorrect information. Since then, I have always encouraged people to verify the information before making a decision" (Interview with WEO, October 18, 2025).*

In a similar vein, another respondent added:

> *"Data anomalies mislead decision-makers, who in turn affect other individuals who rely on such decisions. For example, if the decision at the district level is based on incorrect data/information, there is no way the next level can be protected from the negative effects of that information. That is why educational leaders at all levels, from the school level, should be careful and keen on the educational data management processes so that it does not affect the decision-making process that might ultimately affect the educational outcomes" (Interview with HOS, October 18, 2025)*

The quotes suggest decision-making at the national, regional, district, ward, and school levels. An upper level's choice based on faulty data may mislead the implementing level. The study also found that 62.2% said MIS generates reports well. Ngeze (2017) concurs. Caniëls and Bakens, (2012) found that MIS helps school management (57.6%). 58.8% said MIS is extremely good at monitoring projects and programs, while 65.3% said it improves data quality. All of these findings are supported by Ngeze (2017). Therefore, educational leaders and data consumers should make decisions carefully. Trust verified data. This will help make the proper decision, improving other decision-making and implementation. According to Paul (2020), educational leaders who used accurate and validated data made better-informed decisions that improved student outcomes. Conversely, executives who made judgments based on erroneous or inadequate data generally had trouble implementing their objectives.

4.4.2 Respondents' Satisfaction with the MIS Platform

Teachers were asked to complete a questionnaire about their satisfaction with the overall effectiveness of the MIS platform for monitoring education projects in decision-making, and the findings are presented in Table 3.

Table 3

Respondents' satisfaction with the overall effectiveness of the MIS platform for monitoring education projects in decision-making (n=323)

Level of Satisfaction	Frequency	Percentage
Very satisfied	143	44.3
Satisfied	121	37.5
Neutral	51	15.8
Dissatisfied	3	0.9
Very dissatisfied	5	1.5
Total	**323**	**100**

Table 3 shows that 44.3% of respondents were extremely satisfied and 37.5% satisfied with the MIS platform for monitoring education programs in decision-making. About 81.8% of responders fall into these two categories. This suggests that many users are satisfied with the platform's decision-making. Many (33.8%) were neutral. This suggests that while the platform is functional, it might use some improvements or features. However, only 0.9% were unsatisfied with the platform, and 1.5% were highly dissatisfied with the decision-making process. These users' complaints must be addressed to improve user satisfaction with the platform. Alfahl (2023) observed that educators who used MIS platforms were satisfied with the systems' abilities to track student progress, manage data, and generate reports. The study also stressed the need for ongoing user feedback to fix issues and improve the platform. This supports the idea that addressing consumer complaints boosts satisfaction. Asio et al. (2019), who examined the usability of educational MIS platforms, support the findings. The researchers found that system performance, simplicity of use, and perceived utility affect user satisfaction. To meet consumers' needs and expectations, this study stresses user-centered design and continual improvement. The results indicate that the MIS platform for monitoring education initiatives is effective, although it could be improved to address concerns from neutral or unsatisfied respondents.

4.4.3 Ease of Accessing and Navigating MIS in Decision Making

Additionally, respondents filled out questions regarding the accessibility and navigability of the MIS platform for monitoring educational projects in decision-making. The outcomes are presented in Table 4.

Table 4

Respondents 'ease of access and navigation of the MIS platform for monitoring education projects in decision making (n=323)

Level of agreement	Frequency	Percentage
Very easy	127	39.3
Somehow easy	108	33.4
Neutral	68	21.1
Somewhat difficult	15	4.6
Very difficult	5	1.5
Total	**323**	**100**

Table 4 shows that 33.8% of respondents regarded the MIS platform for education project monitoring decision-making as easy to use. Another 33.8% were ambivalent about the education project monitoring, decision-making, ease of access, and navigation. The platform was somewhat easy to access and navigate for 22.1% of respondents and quite difficult for 7.4%. 2.9% had trouble accessing and using the platform for education project monitoring and decision-making. The findings align with the literature on the usability of modern technological systems and user experience. An intuitive, user-friendly interface is essential for customer satisfaction and efficient use of the technology platform (Alfahl, 2023). Studies have also demonstrated that interface design, instructional clarity, and navigation options strongly influence the ease of use of technology systems (Masumbuko, 2022). The fact that most respondents deemed the MIS platform simple or neutral to use and navigate shows that it is user-friendly and provides obvious pathways for users. The results also show that user training and support can affect the ease of use of the technology system (Luena, 2012). Respondents who had trouble accessing and navigating the platform may need more training or resources to use it effectively. Thus, most respondents found the MIS platform for monitoring education initiatives easy to use, with only a small fraction having trouble. The tool appears to be user-friendly and useful for monitoring education projects.

4.4.4 MIS Users' Related Factors Affecting the Effectiveness of MIS for Monitoring of Education Projects

The second objective examined MIS user characteristics affecting the efficacy of education project monitoring. The researcher sought quantitative data and participants' opinions on which aspects affected the effectiveness of their MIS education project monitoring. Data for this objective were collected through semi-structured interviews and questionnaires. Training, motives, user involvement, support, and system usability were relevant to this purpose.

Table 5

MIS Users' Related Factors Affecting the Effectiveness of MIS for Monitoring of Education Projects

MIS Users' Related Factors	Very Ineffective		Ineffective		Effective		Very Effective	
	n	%	n	%	n	%	n	%
User training	26	8.0	32	9.9	95	29.4	171	52.9
User involvement and support	14	4.3	21	6.5	114	35.3	174	53.9
User Motivation	3	0.9	7	2.2	125	38.7	188	58.2
System Usability	6	1.9	9	2.8	105	32.5	203	62.8
Level of Commitment	0	0.0	3	0.9	135	41.8	185	57.3
Time to Fill MIS	2	0.6	7	2.2	124	38.4	190	58.8

4.5 User Training

Table 5 shows that 52.9% of user training was very effective, 29.4% effective, 9.9% ineffective, and 8.0 very ineffective. Interviews with HOS and district-level education officials support this. Several themes emerged about users' training status, which affects their MIS use. This delegation often leads to overlooks, especially if the statistician is careless due to a lack of user training. Interview with HOS noted

> *"Few teachers have knowledge of management information systems, and thus, the statisticians do all the work. Being overworked, the statistician cannot pay close attention to all the necessary details. As many teachers have computers, they do not have an understanding of how to use them to process data and information" (Interview with HOS, October 18, 2025).*

Another respondent, a District City Council Statistic and Logistic Officer (DCCSLO), echoed these sentiments, emphasizing the link between users' lack of statistical knowledge and the quality of the data presented:

> *"They lack knowledge and expertise in statistics, thus losing focus and accuracy of the statistics they present without knowledge of their future consequences. These limitations are sometimes human. However, sometimes, due to negligence and lack of attention on the part of school statisticians and school heads, this exercise is conducted from the school level to the ward level. Nevertheless, they can also be due to a limited*

understanding of the statistical systems and computer operations. The issue of time is also a challenge; most of them wait until the deadline is too close, and thus do not have enough time to review the uploaded statistics by the relevant teacher" (Interview with DCCSLO, October 18, 2025).

The study also determined the frequency of MIS platform training (Table 6). The findings suggested that training frequency and usability may affect the efficacy of MIS platforms. Table 6 shows 39.3% of teachers received little training. The efficiency of their MIS platform depends on this. Without constant training or assistance, their platform usage may suffer, giving the perception of ineffectiveness. In addition, 44.3% never received MIAS platform training. Lack of training may reduce platform usability and efficacy. Poorly trained users may not see the platform's potential, leading them to assume it is ineffective. Only 6.5% acknowledged frequent training; 7.1% acknowledged sporadic training. The low platform usage confirms the sense of ineffectiveness.

Table 6

Respondents' Responses on Proper Training (n=323)

Agree	**No**	**Yes**	**Total**
Number of participants	227	96	323
Percentage	70.3	29.7	100

Table 7 shows that the study also determined the frequency of MIS platform training. The results revealed that training frequency and usability may affect the MIS platform's perceived efficacy. Table 7 showed that 39.3% of teachers received training rarely. This is key to determining their perspective on the effectiveness of their MIS platform. Since they have not received consistent training or support, their use of the platform may be affected, creating the impression of ineffectiveness. In addition, 44.3% of respondents never received training on the MIAS platform. This lack of training may worsen the platform's usability and effectiveness. If most users are poorly trained, they may not appreciate the platform's potential, leading them to think it is ineffective. Only 6.5% claimed frequent training, while 7.1% reported occasional training. These numbers indicate low platform usage, confirming the overall sense of ineffectiveness.

Table 7

Status of Training MIS (n=323)

Level of agreement	**Frequency**	**Percentage**
Regular	21	6.5
Occasionally	23	7.1
Rarely	127	39.3
Never	143	44.3
Who not filled	9	2.8
Total	**323**	**100**

4.5.1 User involvement and Support

Table 5 shows that 53.9% of user interactions were very effective, 35.3% effective, 6.5% ineffective, and 4.3% very ineffective. They noted that user interaction can lead to a better, more customized solution for the educational environment. WEO stated in the interview:

"Although we value user feedback and involvement in our MIS projects, it is important to strike a balance and ensure that we stay focused on the original objectives to avoid scope creep." (Interview with WEO 3, October 22, 2025)

During the interview, one of the heads of school disclosed that:

"Our goal is to implement an MIS system that meets the needs of our school community, but we also need to be mindful of resistance to change and ensure that the system is user-friendly and easy to use." (Interview with Head of School, November 20, 2024)

One interviewee on user support, a Head of School (HOS), articulated:

"Having a reliable technical support team in place has been a game-changer for our staff and students. It gives them peace of mind knowing that help is just a phone call or email away and allows them to focus on their work without worrying about technical issues."(Interview with HOS 5, November 19, 2025)

And another Participant during FGD stated,

"I can't imagine using a system without proper technical support. It's like having a safety net that lets me experiment with new tools and features without fear of getting stuck. Having someone to turn to for help when needed has definitely made a big difference in my confidence and willingness to explore new technologies in the classroom." (FGD with teachers, November 20, 2025)

The study further conducted a survey to assess respondents' frequency of MIS use, as shown in Table 8 below.

Table 8

Respondents' frequency on use of MIS (n= 323)

Level of agreement	Frequency	Percentage
Daily	82	25.4
Weakly	26	8.0
Monthly	163	50.5
Rarely	43	13.3
Never	9	2.8
Total	**323**	**100**

Table 8 shows that 50.5% of teachers utilize the Management Information System (MIS) to oversee education projects monthly, 25.4% daily, 8.0% weekly, 13.3% seldom, and 2.8% never. This shows that a minority of teachers either do not recognize the value of using the MIS to oversee educational programs or have difficulty adopting it. Masumbuko (2022) claims that few teachers use MIS daily but monthly. Rotherham and Willingham (2010) found that teachers who monitor and use data-driven decision-making improve student outcomes. Teachers who use the MIS monthly may profit from its data-driven insights. Education projects need constant monitoring and assessment, according to Nadia and Amolo (2025). They claim that using data systems like MIS regularly helps teachers track student progress, identify areas for growth, and make informed instructional decisions. This confirms that many teachers regularly use the MIS to monitor and administer educational projects.

4.5.2 User motivation

Table 5 demonstrates that 58.2% of user motivation was very successful, 38.7% was effective, 2.2% was ineffective, and 0.9% was very ineffective. One interviewee, the Head of School, stressed the necessity of being updated about education project development, saying,

> *"I believe that staying informed and up-to-date on the progress of our education projects is crucial for our school's success. Using the MIS to monitor these projects not only helps us track our students' progress, but also ensures that we are meeting our goals and objectives effectively" (Interview with HOS 2, October 18, 2025).*

Similarly, a school statistician noted the personal benefits of using the system for project monitoring:

> *"We find that using the MIS to monitor education projects not only simplifies the process but also motivates me to stay focused and engaged with the project at hand. It gives me a sense of accomplishment and progress when I can see the impact of my work in real-time" (FGD with Teachers from school 5, October 18, 2025).*

Baiden et al. (2023) found that schools with MIS and user-motivator packages had higher student achievement and performance. Amanawa et al. (2022) examined how MIS affects teacher motivation and job satisfaction in a meta-analysis. The findings showed that teachers with access to MIS systems reported higher job satisfaction and greater confidence in achieving educational goals. This shows how MIS can boost educators' morale and motivation, increasing student outcomes (Nadia & Amolo, 2025).

4.5.3 System Usability

Table 5 shows that 62.8% of systems were extremely successful, 32.5% were effective, 2.8% were ineffective, and 1.9% were very ineffective. These interviews consistently showed that MIS design and usability are crucial to its efficacy. User-friendly, intuitive, and customized solutions stood out for their functionality and impact on education project outcomes, according to stakeholders. For instance, HOS 1 said,

> *"Having a user-friendly MIS is essential for effectively monitoring our education projects. It allows us to easily track and analyze data, make informed decisions, and ultimately improve the quality of education for our students." (Interview with HOS 1, October 27, 2025)*

Also, a teacher during FGD echoed this sentiment, stating:

> *"I find that an intuitive MIS that is tailored to our specific needs makes my job much easier. I can quickly input and access information, track student progress, and easily communicate with parents and administrators. It definitely enhances my ability to deliver quality education to my students." (FGD with teachers, October 27, 2025)*

Additionally, scholarly research supports these views. Alfahl (2023) found that well-designed MIS usability aids data-driven decision-making. They believe instructors need easy access to data and the ability to analyze it to make informed decisions that improve student outcomes. Baiden et al (2023) show how system usability improves educator and stakeholder communication and collaboration using an intuitive MIS. A literature study by El-Ebiary et al. (2016)

examines the wider benefits of a user-friendly MIS in education, supporting these findings. Their research shows that such technologies boost productivity and simplify administrative work for instructors and administrators, boosting education project performance.

4.5.3 Level of Commitment

Table 5 shows that 57.3% of commitments were very effective, 41.8% were effective, 0.98% were ineffective, and 0% were very ineffective. The educational project's monitoring and evaluation was caused by low commitment or sincerity. One participant told others in an interview:

> *"…Yes. Data errors and inconsistencies arose from a lack of seriousness among some school heads and their teams. Some statistics contain human errors. Others result from inexperience with computers, leading to typos. Some data anomalies are also caused by time constraints. For example, if requested to provide student information or the number of desks in the school within 15 minutes. Therefore, if you are out of the office, you may inadvertently alter data. Other variables that may contribute to educational data anomalies include a lack of dedication on the part of some school leaders, a lack of funds, and a lack of desire on the part of school statisticians" (Interview with WEO 3, 2025).*

During an interview with the head of the school, the following was revealed:

> *"…statistical inconsistencies caused by the statistics teacher's lack of attention, indifference to the work and the importance of statistics, and having little understanding of computer matters, and how to enter data into the computer and analyze them. This entire act is the catalyst for causing data anomalies when teachers analyze data" (Interview with HOS, October 28, 2025).*

Another participant opined that:

> *"…It is mainly fraud and negligence in monitoring the correct statistics. This is also attributed to the urgency of needing this information; for example, you get a phone call at half past twelve and are told the desk information must be provided before one in the afternoon. That is where the leaders cook (fake) information. Sometimes this is due to political factors combined with education. Politicians want to appear that they are equal and they are fighting for the people, even borrowing just to appear" (FGDS with teachers from school 15, October 28, 2025).*

The quotes above suggest negligence. Bad luck, forgetfulness, or inattention can also cause it. Disregarding statistics and the repercussions of leading or diminishing someone. These errors are mostly human and indicate a lack of seriousness while entering data into the system. It means that without considerable dedication, it is difficult to provide data that can help data users with policy formulation, school planning, and decision-making. EMIS users can use data in several academic fields by destroying its meaning.

4.5.4 Time to Fill the MIS

Table 5 indicates that MIS filling was very successful 58.8% of the time, effective 38.4% of the time, ineffective 2.2% of the time, and very ineffective 0.6% of the time. The study of data obtained from interviews and focus group discussions indicated that educational data collectors are allotted insufficient time for data collection, adversely affecting the quality of the data gathered. It was disclosed that only one month is allocated for data collection, but the educators responsible for data management at the school, referred to as school statisticians, have responsibilities akin to those of other teachers. Consequently, carrying out instructional responsibilities and MIS functions is challenging, causing the educator to worry about a lack of genuine commitment. In an interview with the participant, it was disclosed that:

> *"…Even our senior leaders contribute a lot. They need information abruptly; that is, they give very little time to prepare information. He/she may need some information today; if you send it to him, he will need it again after a few days. Time interval contributes if the head of school is not paying attention to the information, or is giving false information" (Interview with SST 1 October 28, 2025).*

During FGD, another participant added:

> *"Sometimes, we cook data because the time given is very little, and when you look at EMIS activities, they are done in extra time, and with no motivation, sometimes I create the data that could look similar in the system, and quickly I submit it to avoid complications. I believe the majority of teachers, because of a lack of enough time for collecting data, end up cooking data to meet the deadline" (FGD with Teachers from school 4, October 28, 2025).*

In addition to that, WEO said the following:

> *"It happens, although it often happens because of the instructions of what is required. The big problem here is the urgency of sending information. For example, for the information needed on the 22nd, you informed us that the data submitted on the 23rd, which is the last date, which causes you to provide information urgently, and thus there is a possibility of providing information that is not correct as expected" (Interview with WEO 2, October 28, 2025).*

The aforementioned quotations suggest that data management functions require time to achieve accuracy, relevance, and consistency. According to El-Ebiary et al. (2016), educational data collectors require time to enter and validate data. Barghoth et al. (2020) demonstrated the necessity of allocating time for data collectors to enhance the quality of the data they gather and evaluate.

4.6 The Effect of MIS-Related Factors Influencing the Effectiveness of MIS for Monitoring of Education Projects

The final objective examined how MIS-related issues affect the monitoring of education projects. The researcher sought quantitative data and participants' views, experiences, and opinions on how MIS-related elements affect education project monitoring. Likert scales were employed prior to the interviews and FGD, as shown in Table 9.

Table 9

MIS-Related Factors Influencing the Effectiveness of MIS for Monitoring of Education Projects

MIS-Related Factors Influencing the Effectiveness of MIS for Monitoring of Education Projects	Very Ineffective		Ineffective		Effective		Very Effective	
	n	%	n	%	n	%	n	%
Data Security and Privacy	10	3.1	39	12.1	97	30.0	178	55.1
Timeliness of Data	8	2.5	21	6.5	120	37.2	174	53.9
Data Quality	4	1.2	6	1.9	128	39.6	185	57.3
System Integration	8	2.5	7	2.2	109	33.7	199	61.6
Stakeholder Engagement	5	3.1	5	1.5	133	41.2	180	55.7

As shown in Table 5, 55.1% say data security and privacy is very effective, 30.0% say effective, 12.1% say ineffective, and 3.1% say very ineffective. As we examined real-world data breaches and their effects on project effectiveness and stakeholder confidence, we realized the importance of strong security measures, such as frequent audits and data privacy training. This extensive analysis concluded that the MIS requires stronger data protection strategies to monitor education projects and safeguard sensitive data.

> *"Ensuring the security of our MIS data is a top priority for us, as it plays a critical role in monitoring the progress of our education projects. We have implemented strict policies and procedures to safeguard sensitive information and comply with data protection regulations." (FGD with teachers from school 1, October 28, 2025)*
>
> *"The MIS system is a valuable tool for tracking student progress and identifying areas for improvement in our teaching practices. It is essential that we can trust the data stored within it, so maintaining privacy and security measures is crucial for us to effectively utilize the system." (Interview with school statistician, 5, October 28, 2025)*

The remarks indicate that the school's administration and teachers value MIS data security, as noted by Olwenyi et al (2025). Without sufficient data protection, evaluating student development and applying effective teaching tactics could be inaccurate. School success and education project improvement depend on the MIS system's privacy and the safeguarding of sensitive data. To preserve trust in system data and its reliability, data protection standards and strict policies must be followed. Recent literature emphasizes data security in educational institutions, notably in Management Information Systems. Alfahl, 2023 recommended that schools prioritize student data security in their MIS systems to prevent data breaches. Olwenyi et al (2025) also stressed the importance of robust security procedures and encryption to protect educational data stored in MIS. They warned that inadequate data protection could lead to identity theft or exploitation of student data. According to Barghoth et al. (2020), educational institutions struggle to balance MIS data accessibility and security. The researchers underlined the significance of explicit data protection standards to prevent unauthorized disclosure or manipulation. As shown in Table 5, 53.9% say Timeliness of Data was very effective, 37.2% say effective, 6.5% say ineffective, and 2.5% say very ineffective. The Head of School interview stressed the need for real-time data for education project decisions. As he said,

> *"Timely data collection and reporting are essential for us to make informed decisions about our education projects. Without up-to-date information, we may not be able to address issues promptly and ensure the success of our initiatives" (Interview with HoS 11, October 28, 2025)*

This underscores that delays in obtaining pertinent data may hinder the prompt execution of corrective measures, hence reducing the efficacy of specified educational programs. The school statistician underscored the significance of real-time data for evaluating student achievement. He stated:

> *"As statisticians, it is critical for us to have access to real-time data in order to accurately analyze and interpret trends in student performance. Delays in data collection and reporting can hamper our ability to provide meaningful insights and feedback to the school administration." (Interview with school statistician 2, October 28, 2025)*

Amanawa et al. (2022) emphasize the significance of Management Information Systems (MIS) in enhancing decision-making and improving efficiency in educational administration. This indicates that an efficient MIS platform must deliver real-time data and information to facilitate decision-making across all tiers of educational administration. A study by Amanawa et al. (2022) underscores the necessity for interoperable, scalable, and user-friendly Management Information Systems in the education industry. This indicates that the usability and usefulness of a Management Information System platform are essential determinants of its efficacy in delivering real-time data and information regarding educational programs. Furthermore, Barghoth et al (2020) examine the potential benefits of data analytics for improving educational outcomes. This indicates that an efficient MIS platform must deliver real-time data and enable data analysis to discern trends and guide strategic decision-making in educational initiatives.

Table 5 indicates that 57.3% of respondents consider Data Quality to be very effective, 39.6% deem it effective, 1.9% regard it as ineffective, and 1.2% classify it as extremely ineffective. The school administrator and statisticians were tasked with obtaining a comprehensive viewpoint. During the interviews, participants articulated a collective apprehension over data quality, underscoring that inadequate data can distort monitoring and assessment processes. A participant, identified as Head of School (HoS 4), remarked,

> *Ensuring data quality is crucial to accurately assessing the impact of our education projects. We rely on this data to make informed decisions about the success and future direction of our initiatives." (Interview with HoS 9, November 11, 2025)*

This response emphasized the participants' recognition of the clear correlation between data quality and the capacity to extract meaningful insights concerning project outcomes. The statement clarified that, in the absence of trustworthy data, any conclusions regarding the efficacy of educational efforts may be inherently flawed. Furthermore, the School Statistician (school statistician 3) provided a comprehensive viewpoint on the issue, asserting,

> *"As statisticians, it is our responsibility to ensure that the data we collect is accurate and reliable. Without quality data, our evaluation of the effectiveness of education projects can be compromised, leading to potentially misleading conclusions." (Interview with school statistician 16, November 11, 2025)*

Statisticians are crucial to project evaluations because they uphold high standards of data quality. These interviews showed that participants understood the consequences of poor data quality. They said monitoring and evaluation errors could waste time and money by misallocating resources. These mistakes can also affect strategic planning for future educational efforts, limiting the growth and improvement of the education system. Participants stressed the need for data quality throughout the data collection process to address these issues. This includes training data collectors in best practices, checking for data errors and inconsistencies, and using technology to improve data-collection efficiency and quality. Fostering a data-quality culture that improves monitoring and evaluation requires proactive steps. As shown in Table 5, 61.6% claim System Integration was very effective, 33.7% say effective, 2.2% say ineffective, and 2.5% say very ineffective. Real-time, precise information gave stakeholders confidence in their decisions.

> *"Integrating the MIS with other systems has revolutionized how we monitor our educational projects. We now have immediate access to data that helps us make informed decisions and track the progress of our initiatives in real-time."(FGD with teachers in school 18, November 11, 2025)*

School statistician:

> *"The integration of the MIS with other platforms has greatly enhanced our data analysis capabilities. We can now extract valuable insights from various sources and ensure that our monitoring processes are thorough and accurate."(Interview with school statistician 4, November 11, 2025)*

Caniëls and Bakens (2012) observed that combining MIS with project management software improved project progress and resource tracking, thereby enhancing decision-making and resource allocation. Research by Barghoth et al. (2020) emphasizes the importance of integrating MIS with learning management systems in education. This link provides administrators with real-time data on student progress and performance, enabling personalized learning and targeted interventions. As shown in Table 5, 55.7% think Stakeholder Engagement was very effective, 41.2% say it was effective, 1.5% say it was ineffective, and 3.1% say it was very ineffective. These findings show that organizations should prioritize stakeholder participation in their MIS strategies. During the interview, a respondent noted:

> *"I believe that involving all relevant stakeholders in the monitoring and evaluation process of our MIS system is crucial for its success. By engaging teachers, administrators, and parents in the design and implementation of the system, we can ensure that the data collected is accurate and useful for improving student outcomes."(Interview with HoS 2, November 11, 2025)*
>
> *"Being involved in the design and use of our MIS system has helped me better understand the needs of my students and tailor my instructional practices accordingly. It has also allowed me to track student progress more effectively and communicate that progress to parents and colleagues."(FGD with teachers, November 11, 2025)*

The school community benefits from transparency, collaboration, and accountability when all stakeholders monitor and evaluate the MIS system. Teachers, administrators, and parents understand the system's purpose and goals when they actively create and implement it. More accurate statistics, educated decision-making, and focused student success initiatives result. Since everyone is committed to using data to enhance the school, it promotes ongoing progress and mutual support. This collaborative approach improves communication, relationships, and student outcomes. To use data to promote student learning, Schildkamp et al (2019) recommend collaboration between teachers, administrators, and parents. They claim that including all stakeholders in the evaluation process improves data interpretation and fosters a shared commitment to using it to inform instructional decisions. Barghoth et al. (2020) found that including all stakeholders in the monitoring and evaluation of MIS systems increases transparency and accountability. The researchers discovered that active engagement by teachers, administrators, and parents in the evaluation process increases confidence in the data and ownership. This enhances student success and the effectiveness of interventions. Recent literature suggests that all stakeholders should monitor and evaluate school MIS systems to promote openness, collaboration, and accountability. By collecting and analyzing data collectively, stakeholders may make informed decisions, promote positive change, and improve student outcomes.

V. CONCLUSION & RECOMMENDATIONS

5.1 Conclusion

The study revealed and concluded that Management Information Systems (MIS) play a crucial role in monitoring and evaluating education projects. MIS helps track progress, analyze data, manage resources, and support decision-making. By providing accurate and timely information, MIS can improve the efficiency and effectiveness of education projects. It is essential for project managers and education stakeholders to recognize the importance of MIS in ensuring the success of education initiatives. Also, the study found that user training, involvement, and technical support are necessary to ensure the effectiveness of Management Information Systems for monitoring education projects. Users who receive adequate training and are actively involved in the development process are more likely to understand how to use the system and appreciate its benefits for monitoring. Additionally, the availability of technical support and assistance is essential to ensure that users can effectively use the system. Moving forward, it is crucial for education stakeholders to prioritize these factors when designing and implementing MIS to monitor education projects, in order to maximize their impact and improve the quality of data collected for educational purposes. Further, the study revealed and concluded that maintaining security and privacy, ensuring the timeliness of data collection and reporting, integrating with other systems, and engaging stakeholders are key to ensuring the effectiveness of Management Information Systems (MIS) in monitoring education projects. By prioritizing these factors, organizations can enhance the quality of data collected and improve decision-making processes. Moving forward, continued attention to these key areas will be essential for maximizing the impact of MIS in monitoring and evaluating educational initiatives.

5.2 Recommendations

Based on the conclusion, the study recommends that the Department of Secondary Education in Dodoma City Council, in collaboration with the President's Office, the Regional and Local Government Authorities, should provide comprehensive and ongoing training for users of the MIS system to ensure they fully understand how to utilize it effectively for monitoring education projects. This training should cover not only the technical aspects of the system but also how it can be used to gather and analyze data for decision-making.

The City Council of Dodoma, through the relevant Department of Secondary Education, should encourage user involvement in the design and implementation of the MIS system to ensure that it meets the specific needs and requirements of education project monitoring. Users should be consulted throughout the development process to ensure that the system is user-friendly and aligns with their monitoring goals and objectives. This will help increase user adoption and system usage. The Government, through the Ministry of the President's Office, Regional and Local Government Authorities, in collaboration with education stakeholders in the City Council of Dodoma, should implement regular security audits and updates to ensure the protection of sensitive data stored in the MIS. This will help to mitigate the risk of data breaches and unauthorized access.

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