UTILIZATION OF MANAGEMENT INFORMATION SYSTEMS IN TEACHING OF ECONOMICS IN PUBLIC SECONDARY SCHOOLS IN ANAMBRA STATE

Chinelo Catherine Ikebudu
Department of Arts and Social Science Education
Chukwuemeka Odumegwu Ojukwu University, Anambra State, Nigeria
E-mail: cc.ikebudu@gmail.com

Dr. (Mrs.) Patricia I. Adinna
Head, Department of Arts and Social Science Education
Chukwuemeka Odumegwu Ojukwu University, Igbariam CampuSAnambra State.

Ikebudu Kingsley Okechukwu
Academic Staff , Department of Mechanical Engineering
Chukwuemeka Odumegwu Ojukwu University, Igbariam CampuSAnambra State.

Abstract
The study examined the utilization of management information systems in teaching of economics in public secondary schools in Anambra State. The study was guided by two research questions and two hypotheses. The study adopted a descriptive survey research design. The target population comprised 342 Economics teachers across 267 public secondary schools in Anambra State. The entire population of 342 teachers was utilized as the sample. Data were collected using two self-constructed instruments: The Utilization of Management Information Systems Questionnaire (UMISQ) and Teaching of Economics Questionnaire (TEQ). The reliability coefficients obtained were 0.85 for the utilization of visual materials, 0.82 for audio materials, and 0.87 for the TEQ, indicating high and acceptable reliability levels. These values confirmed the instruments as dependable and suitable for the main study. The instruments were distributed through the direct delivery method to ensure high response rates. Data gathered were analyzed using mean and standard deviation for answering research questions, while paired sample t-tests were conducted using SPSS for hypothesis testing. The study found that Despite their proven efficacy, evidence suggests that many schools either under-utilize or lack access to these systems. However, when in use, management information systems such as student performance tracking tools, lesson monitoring logs, attendance records, and digital platforms improve instructional coordination and enhance learner engagement through structured data utilization. These systems support timely decision-making, individualized teaching strategies, and feedback mechanisms that align teaching practices with learners' needs. The study recommended that public secondary schools should be equipped with computer-based MIS tools such as digital libraries, e-books, computers, academic journals, and internet-enabled devices to facilitate digital learning of Economics. Non-computer-based MIS resources like physical libraries, printed academic journals, brochures, and conventional mail services should be maintained and updated, especially in schools with limited digital infrastructure, to ensure inclusive and Economics teaching across all learning environments.

Keywords: Management Information Systems, Computer-Based, Non Computer-Based, Teaching

Introduction

Economics, as a field of study, is concerned with the allocation of scarce resources among competing needs and the mechanisms through which individuals, firms, and governments make rational decisions to maximize utility, profit, and societal welfare (Umoh, 2025). It spans both micro and macro levels of analysis, examining the behaviour of economic agents and the broader economic systems in which they operate. In secondary and tertiary education, economics plays a vital role in equipping learners with analytical and decision-making skills essential for navigating complex socio-economic environments (Nwangwu & Asuquo, 2022). Furthermore, understanding economic

principles helps students interpret global economic trends, fiscal policies, and the impact of individual choices on national development. However, the benefits of economics education can only be harnessed through its effective teaching, which is crucial for deepening students' comprehension, fostering critical thinking, and enhancing their ability to apply economic theories to real-life situations. Teaching refers to the intentional application of pedagogical strategies, instructional materials, and student-centred approaches that facilitate meaningful learning and knowledge retention (Okudo, 2023). It involves not just the transmission of content but also the engagement of learners through inquiry, problem-solving, and contextual analysis, particularly relevant in economics where abstract theories must be tied to empirical realities. Teaching also emphasizes formative assessment, feedback, and adaptive instruction, which are necessary to address the diverse learning needs of students (Ihua, 2024). In this regard, the integration of a Management Information System (MIS) becomes indispensable, as it provides data-driven insights that support instructional planning, monitoring of student progress, and informed decision-making for improved educational outcomes.

Management Information System is a phrase consisting of three words which are management, information and systems. Considering these three words, Management Information System can be defined as systems that provide information to management. This system is applicable in schools because teachers are like managers and they require information to manage the students, the classrooms and the school effectively. Suchi (2017) defined the management information in his word as an executive information system planned to match the structure, management task, instructional process and particular needs of the school. Management information systems (MIS) are being used by schools to support a range of administrative activities including attendance monitoring, assessment records, reporting, financial management, staff allocation and can be very helpful in teaching of Economics. MIS provide teachers with the information required to manage organizations efficiently and effectively. Ogunode et al. (2021) described management information system (MIS) as an organizational method of providing past, present and projected information related to internal operations and external intelligence. It supports the planning, control and operation functions of an organization by furnishing uniform information in the proper time frame to assist the decision makers. Management information system is central focus for educational policies and the needs for its integration into educational curriculum cannot be undermined. However, students, teachers and administrators in Nigerian secondary schools are yet to be adequately exposed to the realities of numerous challenges of the 21st Century that is technologically driven in outlook (Nkata, 2020). The Federal Republic of Nigerian through the school access programme in 2010 made concerted efforts towards the provision of basic tools regarding the application and utilization of internet facilities to some secondary schools in the country, however, the efficacy has not been maximally actualized. After over 60 years of Nigeria independent, the country still lacks behind technologically as larger percentage of her secondary school leavers still required adequate training and retraining programs on the utilization and application of management information system (Jacob et al., 2020).

MIS plays a vital role in the area of decision making as it can monitor by itself disturbances in a system, determine a course of action and take action to get the system in control. It is also relevant in non-programmed decisions as it provides support by supplying information for the search, the analysis, the evaluation and the choice and implementation process of decision making. The distinctive nature of MIS has made it momentous in the contribution to the knowledge acquisition, utilization and skills development. Thus, there is an urgent need for educational institution like secondary schools to genuinely embrace management information system (MIS) driven to avoid being eliminated from the global village of internet and intranet. At present, effective information system is vital for the educational administrators due to ever increasing complexities in the management of their institutions (Ampofo, 2020).

These systems have the ability to provide its users the processed information, analytical models, real-time updates and hypothetical scenarios to assist their decision-making process. The compu2ter based MIS and non-computer-based MIS facilities are useful in providing relevant and accurate information to enhance effective decision making towards the achievement of the organizational goal and in teaching of Economics. Though MIS can exist with or without computers but in the presence of large data and for the information to be timely and accurate, the computer-based MIS facilities are

necessary (Ogunode, 2021). Therefore, it becomes necessary for computer based and non-computer-based MIS facilities to be made available in the schools to enhance effective running of the day-to-day activities and to be able to link with the higher authorities to obtain and supply necessary information when needed.

Computer-based MIS uses computer technology to collect, process, store, and disseminate information to support decision –making in schools while non-computer-based MIS uses manual methods to collect, process, store and disseminate information to support decision –making in schools (Rajagopalan, 2019). Computer based MIS facilities are electronic devices or machine that accepts data, process it and gives output in form of meaningful information meant for consumption. It is also a device capable of accepting data automatically; apply a sequence of processes to the data and supply the result of these processes. It is an electronic data processing device, and also the input-output automatic machine, which is a machine for information technology. The computer-based MIS facilities include: telephone, intercom, fax, telex, electronic mail, electronic data, electronic fund-transfer at Point of sale (EFTPOS), and internet (Ogunode, 2021).

The non-computer-based MIS facilities are the systems other than the computers through which information are supplied to managers and other decision makers in order to run the day-to-day activities of an institution, establishment or organization in order to achieve the set goals and objectives (Ampofo, 2020). The non-computer-based MIS facilities includes: postal services, administrative files, conference papers, seminar reports, publications such as journals, handbook, bulletin or brochure (Ogunode, 2021).

The computer-based MIS and non-computer-based MIS facilities are useful in providing relevant and accurate information to enhance effective decision making toward the achievement of the school goal. Though MIS can exist with or without computers but in the presence of large data and for the information to be timely and accurate, the computer-based MIS facilities are necessary. It therefore becomes necessary for computer based and non-computer-based MIS facilities to be made available in the schools to enhance effective teaching of Economics.

Since students' performance is measured through examinations like WAEC, NECO, and JAMB, it is necessary to know the extent of utilization of management of information systems (MIS), such as computer-based MIS and non-computer-based MIS. Against this background and in light of these unpleasant circumstances, the researcher deemed it necessary to examine the utilization of management of information systems (MIS) such as computer-based MIS and non-computer-based MIS in teaching of economics in public secondary schools in Anambra State. The integration of MIS enhances instructional planning, resource allocation, performance monitoring, and timely decision-making. Computer-based MIS allows real-time access to student data, curriculum implementation records, and instructional feedback, while non-computer-based MIS aids in maintaining structured documentation of lesson plans, attendance, and material use. Ignoring these systems can lead to poor instructional coordination, ineffective resource utilisation, and inconsistent teaching outcomes, which may negatively affect students' performance in external examinations.

Statement of the Problem

Ideally, the teaching of Economics in public secondary schools should be supported by the strategic use of Management Information Systems (MIS), both computer-based and non-computer-based, to enhance instructional planning, resource management, and performance tracking. When properly utilized, MIS enables data-driven decision-making, facilitates efficient monitoring of curriculum implementation, and supports continuous assessment of student learning outcomes. However, in Anambra State, the current situation reveals a low level of MIS integration in the teaching of Economics, primarily due to inadequate infrastructure, lack of ICT skills among teachers, and poor administrative support. These challenges have led to inefficient instructional delivery, poor utilization of teaching materials, and declining student performance in external examinations like WAEC and NECO. This mismatch between ideal practices and current realities necessitates a systematic investigation. Therefore, this study on the utilization of MIS in teaching of Economics is essential to identify existing gaps, examine underlying causes, and recommend practical strategies for enhancing instructional effectiveness in Anambra State's public secondary schools.

Purpose of the Study

The main purpose of this study is to examine the utilization of management information systems in teaching of economics in public secondary schools in Anambra State. Specifically, the study sought to:

1. determine the utilization of computer-based MIS facilities in teaching of Economics in public secondary schools in Anambra State.
2. determine the utilization of non-computer-based MIS facilities in teaching of Economics in public secondary schools in Anambra State.

Research Questions

The study was guided by the following research questions:

1. What is the extent of utilization of computer-based MIS facilities in teaching of economics in public secondary schools in Anambra State?
2. What is the extent of utilization of non-computer-based MIS facilities in teaching of economics in public secondary schools in Anambra State?

Hypotheses

The following null hypotheses was tested at 0.05 level of significance:

1. utilization of computer-based MIS facilities is not significant in teaching of economics in public secondary schools in Anambra State.
2. utilization of non-computer-based MIS facilities are not significant in teaching of economics in public secondary schools in Anambra State.

METHODS

The study adopted a descriptive survey research design. The target population comprised 342 Economics teachers across 267 public secondary schools in Anambra State. Interestingly, the entire population of 342 teachers was utilized as the sample, as the researcher deemed this number sufficiently comprehensive, manageable, and representative for the study's purpose. Data were collected using two self-constructed instruments: The Utilization of Management Information Systems Questionnaire (UMISQ) and Teaching of Economics Questionnaire (TEQ). The UMISQ was divided into two sections: Section A gathered respondents' demographic information, while Section B focused on the extent of instructional material utilization. Section B was organized into two clusters—B1 on Computer Based and B2 on non-computer based —each comprising 10 items. Responses were measured using a four-point scale: Very High Utilized (VHU), High Utilized (HU), Low Utilized (LU), and Very Low Utilized (VLU), to assess the degree of material usage in teaching Economics. Conversely, Teaching of Economics Questionnaire (TEQ) consisted of 15 items, each structured along a four-point rating scale: Very High Utilized (VHU), High Utilized (HU), Low Utilized (LU), and Very Low Utilized (VLU). To ensure the reliability of the instruments, a pilot test was conducted using a sample of 20 Economics teachers from Enugu State, which lies outside the study area, thereby avoiding sample contamination. After administration, the completed questionnaires were analyzed using Cronbach's Alpha to determine internal consistency. The reliability coefficients obtained were 0.85 for the utilization of non computer based, 0.82 for computer based, and 0.87 for the TEQ, indicating high and acceptable reliability levels. These values confirmed the instruments as dependable and suitable for the main study. The instruments were distributed through the direct delivery method to ensure high response rates. Data gathered were analyzed using mean and standard deviation for answering research questions, while paired sample t-tests were conducted using SPSS for hypothesis testing.

RESULTS

Research Question One: What is the extent of utilization of computer-based MIS facilities in teaching of Economics in public secondary schools in Anambra state?

Table 1: Mean rating of the extent of utilization of computer-based MIS facilities in teaching of Economics in public secondary schools in Anambra State

S/N	Item Statements	$\overline{X}$	SD	Remarks
1	E-library	1.40	0.518	Lowly Utilized
2	Computers & Laptops always	1.19	0.429	Lowly Utilized
3	E-books	1.19	0.429	Lowly Utilized
4	Wikis	1.19	0.429	Lowly Utilized
5	E-newspaper	1.19	0.399	Lowly Utilized
6	E-magazine	1.19	0.429	Lowly Utilized
7	Android smartphones	1.27	0.474	Lowly Utilized
8	Telex/ Intercom	1.19	0.429	Lowly Utilized
9	E-mail/ Fax/ Instant Messaging (IM)	1.19	0.429	Lowly Utilized
10	E-data base	1.21	0.491	Lowly Utilized
11	E-journal	1.21	0.491	Lowly Utilized
12	Internet Services	1.21	0.491	Lowly Utilized
13	Blog/Website	1.21	0.491	Lowly Utilized
14	E-brochure	1.21	0.491	Lowly Utilized
15	E-bulletin	1.21	0.491	Lowly Utilized
	Average	**1.22**	**0.460**	Lowly Utilized

Table 1 indicates that the average mean score for the extent of utilization of computer-based MIS facilities in the teaching of Economics in public secondary schools in Anambra State was 1.22, with a standard deviation of 0.460. The findings showed that Computer Based Management Information System facilities are lowly utilized for teaching Economics in public secondary schools in Anambra State.

Research Question Two: What is the extent of utilization of non-computer-based MIS facilities in teaching of Economics in public secondary schools in Anambra state?

Table 2: Mean rating of the extent of utilization of non-computer-based MIS facilities in teaching of Economics in public secondary schools in Anambra State

S/N	Item Statements	X	SD	Remarks
16	Administrative files	1.27	0.443	Lowly Utilized
17	Postal Services	1.17	0.377	Lowly Utilized
18	Encyclopaedia	1.17	0.374	Lowly Utilized
19	Handbook/ books	2.84	1.252	Lowly Utilized
20	Library	1.21	0.411	Lowly Utilized
21	Brochures	1.20	0.399	Lowly Utilized
22	Bulletins	1.25	0.436	Lowly Utilized
23	Journals	1.18	0.385	Lowly Utilized
24	Magazines & Newspapers	1.18	0.385	Lowly Utilized
25	Database	1.23	0.422	Lowly Utilized
	Average	**1.37**	**0.488**	Lowly Utilized

The results in Table 2 revealed a mean score of 1.37 with a standard deviation of 0.488 for the use of non-computer-based facilities in teaching Economics in public secondary schools in Anambra State. This reflects a low level of utilization of such MIS resources in the teaching process. The findings suggest that these schools make minimal to no use of non-computer-based facilities in the delivery of Economics instruction.

Table of Hypotheses

Test Hypothesis One

H_0: Utilization of computer-based MIS facilities is not significant in teaching of Economics in public secondary school in Anambra State

Table 3: Summary of test on utilization of computer-based MIS facilities is significant in teaching of Economics in public secondary school in Anambra State

Paired Samples Test

		Paired Differences							
					95% Confidence Interval of the Difference				
	Variables	Mean	Std. Deviation	Std. Error Mean	Lower	Upper	T	df	Sig. (2-tailed)
Pair 1	Computer-Based MIS Facilities Teaching of Economics	-2.09732	.57414	.03320	-2.16267	-2.03198	-63.166	298	.000

The results in Table 3 indicates the summary of the T-Test analysis on utilization of computer-based MIS facilities is significant in teaching of economies in public secondary school in Anambra State. The results indicated that the mean score for the computer-based MIS facilities was .00825. The paired samples t-test statistic was -63.166 with a p-value of .000. This show that the p-value (.490) is less than 0.05. thus, the null hypothesis was rejected while the alternative hypothesis was accepted. This means that utilization of computer-based MIS facilities is significant in teaching of Economics in public secondary school in Anambra State.

Test Hypothesis Two

H_0: Utilization of non-computer-based facilities is not significant in teaching of Economics in public secondary school in Anambra State

Table 2: Summary of test on utilization of visual material is significant in teaching of Economics in public secondary school in Anambra State

Paired Samples Test

		Paired Differences							
					95% Confidence Interval of the Difference				
	Variables	Mean	Std. Deviation	Std. Error Mean	Lower	Upper	t	df	Sig. (2-tailed)
Pair 1	Non-Computer-Based MIS Facilities Teaching of Economics	-.02408	.10144	.00587	-.03563	-.01254	-4.105	298	.000

The results shown in Table 2 provide a summary of the T-Test analysis examining the impact of utilizing non-computer-based facilities on the teaching of Economics in public secondary schools in Anambra State. The analysis revealed a mean score of -0.02408 for non-computer-based facilities and teaching. The computed paired samples t-test value was -4.105 with a p-value of 0.00. Since the p-value (0.00) is less than the significance value of 0.05, the null hypothesis was rejected, and the alternative hypothesis was accepted. This indicates that the utilization of non-computer-based facilities is significant in teaching of Economics in public secondary school in Anambra State.

Discussion of Findings

The findings from research question one and hypothesis one indicate that computer-based Management Information System (MIS) facilities play a significant role in enhancing the effective teaching of Economics in public secondary schools in Anambra State. This significance is evident in

the integration of various digital tools and resources, including digital libraries, desktop and laptop computers, electronic books (e-books), collaborative wikis, digital newspapers, and online magazines. Additionally, the use of Android mobile devices, telex and intercom systems, email, fax, instant messaging platforms, electronic databases, online academic journals, and reliable internet connectivity further supports instructional delivery. Other vital digital resources identified include blogs, websites, digital brochures, and electronic bulletins, all of which collectively facilitate access to information, promote interactive learning, and improve pedagogical outcomes in the subject.

The assertion that computer-based Management Information System (MIS) facilities significantly enhance the teaching of Economics in public secondary schools in Anambra State is supported by several scholarly perspectives. Okeke and Ikediugwu (2021) findings have shown that digital tools, such as e-books, academic databases, and digital libraries, provide teachers and students with access to up-to-date and diverse learning materials, which are critical for a subject like Economics that is dynamic and information-rich. Furthermore, Eze, Agboola and Aremu (2021) confirmed that platforms such as collaborative wikis and blogs promote interactive and constructivist learning environments where students can engage in critical thinking and peer-to-peer knowledge construction. The integration of ICT tools like laptops, Android devices, and internet connectivity also enables blended and flexible teaching models, thereby addressing the limitations of traditional classroom settings.

The findings from research question five and hypothesis five reveal that non-computer-based Management Information System (MIS) facilities significantly contribute to the effective teaching of Economics in public secondary schools in Anambra State. These traditional resources include administrative records, conventional mail services, printed encyclopedias, handbooks, and textbooks, all of which support content delivery. Additionally, physical library resources, informational brochures, newsletters, academic journals, printed periodicals such as magazines and newspapers, and manual data repositories play a critical role in facilitating knowledge acquisition. Their continued relevance underscores the importance of diverse, tangible educational tools in settings where digital infrastructure may be limited or underutilized.

The use of traditional information sources such as administrative documents, mail services, encyclopedias, handbooks, textbooks, library resources, brochures, bulletins, journals, magazines, newspapers, and databases as the study of Amanawa, Joseph and Nyone (2022) affirmed continues to play a significant role in education. These resources support structured learning and serve as credible, well-vetted repositories of information. In Economics education, Osuji and Iheanyichukwu (2021) findings affirmed that textbooks and academic journals provide foundational theories, historical perspectives, and case studies essential for conceptual understanding. Libraries and encyclopedias encourage independent research and information literacy, while printed materials like brochures and newsletters help disseminate economic information in digestible formats.

Conclusion

The findings underscore the multifaceted significance of management information systems (MIS) in enhancing the effective teaching of Economics in public secondary schools in Anambra State when properly utilized. Despite their proven efficacy, evidence suggests that many schools either underutilize or lack access to these systems. However, when in use, management information systems—such as student performance tracking tools, lesson monitoring logs, attendance records, and digital platforms—improve instructional coordination and enhance learner engagement through structured data utilization. These systems support timely decision-making, individualized teaching strategies, and feedback mechanisms that align teaching practices with learners' needs. Altogether, these findings affirm that the blended application of diverse MIS tools—both computer-based systems such as electronic gradebooks, digital dashboards, and content delivery platforms, and non-computer-based systems such as lesson plans, teacher logs, and manual student records—significantly enhances pedagogical efficiency, strengthens teacher accountability, and promotes improved knowledge retention in Economics education.

Recommendations

Based on the findings of the study, the following were found:

1. Public secondary schools should be equipped with computer-based MIS tools such as digital libraries, e-books, computers, academic journals, and internet-enabled devices to facilitate digital learning, expand resource access, and promote collaborative and interactive pedagogy in Economics.
2. Non-computer-based MIS resources like physical libraries, printed academic journals, brochures, and conventional mail services should be maintained and updated, especially in schools with limited digital infrastructure, to ensure inclusive and effective Economics teaching across all learning environments.

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