



**PRINCIPALS' UTILIZATION OF ICT IN BUDGET PROCESS AS CORRELATE OF
EFFECTIVE MANAGEMENT OF PUBLIC SECONDARY SCHOOLS IN EBONYI STATE**

DR. PATIENCE OBIAGELI OBINEME

DEPARTMENT OF EDUCATIONAL MANAGEMENT AND POLICY
FACULTY OF EDUCATION, NNAMDI AZIKIWE UNIVERSITY, AWKA

Email: po.obineme@unizik.edu.ng

Mobile line: 08066124487

DR. CHIKA NONYE EZIAMAKA

DEPARTMENT OF EDUCATIONAL MANAGEMENT AND POLICY
FACULTY OF EDUCATION, NNAMDI AZIKIWE UNIVERSITY, AWKA

Email: cn.eziamaka@unizik.edu.ng

Mobile line: 08168983795

&

DR. FRANCISCA NGOZI NWOBU

MINISTRY OF EDUCATION, AWKA

EMAIL: FRANCISCANWOBU3@GMAIL.COM

Mobile line: 08068256282

Abstract

The study investigated principals' utilization of ICT in budget process as correlate of effective management of public secondary schools in Ebonyi State. Two research questions guided the study and two hypotheses were tested at 0.05 level of significance. The correlational survey research design was adopted for the study. The population of the study comprised 233 principals of public secondary schools in Ebonyi State. Two structured validated questionnaires were used to collect data for the study. The questionnaires were validated by three experts in education and the reliability of the study was achieved through pilot study. The application of Cronbach Alpha yielded coefficient values of 0.89 and 0.87 were obtained for PUICTBPQ and ESMQ respectively. The Pearson Product Moment Correlation Coefficient was employed to answer the research questions and to test the hypotheses. The findings revealed a high positive relationship between principals' use of ICT in budgeting and effective school management. Additionally, the study showed that while both male and female principals benefited from ICT integration, the relationship was stronger among male principals. Based on these findings, the study recommended increased ICT training for all principals, improved provision of ICT infrastructure in schools, and gender-sensitive support programmes to bridge potential disparities.



Keywords: ICT utilization, Budgeting Process, School Management, Public Secondary Schools, Principals, Gender

Introduction

School administration is integral to the attainment of secondary school objectives. The school principal, serving as the chief executive officer, plays a pivotal role in orchestrating the daily operations and ensuring that the school's goals align with national educational standards. Principals are members of the school whose activities encompasses organizing and directing formal and informal activities related to the school for the achievement of educational goals. Similarly, the Appalachian State University (2019), said that principals are persons who plan, direct or coordinate the academic, administrative or extracurricular activities of public or private secondary educations. The principal's responsibilities encompass a broad spectrum of administrative duties, including curriculum implementation, staff supervision, resource management, and fostering community relations. Akintola and Alshulum (2018) stated that the principal's role extends to supervising instruction, developing curricula, managing school finances, and overseeing both staff and student personnel administration. Dwyer (2022) said that the principals monitor school budget, approve staff spending, evaluate teachers' performances, supervise overall school test scores and implementation of any activities to meet core goals established by the school. Budgeting therefore is critical to effective school management.

Budgeting means assigning monetary values or expenditures to make a plan become effective. According to Amaikwu and Ofojebe (2020) budgeting is a process of planning and

quantifying school programmes in monetary terms showing planned income to be generated and expenditure to be incurred in a given fiscal year of a school. Similarly, Ganti (2022) refers to budgeting as an estimation of revenue and expenses over a specified future period of time and is usually compiled and reevaluated on a periodic basis. Budgeting is a critical component of school management, serving as a foundational tool for planning, allocating resources, and ensuring the effective operation of secondary schools. In Ebonyi State, Nigeria, the budgeting practices of secondary school principals have come under scrutiny, with evidence suggesting that these practices are less than impressive, leading to challenges in the effective management of schools. A study by Okorji and Nwode (2023) investigated the application of budgeting practices by principals in public secondary schools in Ebonyi State. The findings revealed that while principals engage in revenue and expenditure planning, there is a lack of significant difference in the application of these practices between male and female principals. However, the study highlighted the need for the Ministry of Education to intensify efforts in monitoring financial expenditures to enhance decision-making and accountability. Further compounding the issue, Oboegbulem and Kalu (2013) examined budgeting practices in the South-East geopolitical zone, which includes Ebonyi State. Their research indicated that principals often adhere to budget guidelines in planning and implementation but fall short in critical areas such as purchasing science equipment, maintaining school infrastructure, and organizing professional development activities. These shortcomings suggest a



disconnect between budget planning and the actual needs of the schools.

The consequences of these inadequate budgeting practices are evident in the administrative challenges faced by secondary schools in the region. Onyeukwu (2023) identified issues such as ineffective management of administrative tasks, lack of delegation of authority, and irregular payment of salaries, all of which impede the realization of educational objectives. These problems are often rooted in poor budgeting and financial management, underscoring the importance of effective budgeting practices. In summary, while budgeting remains a vital aspect of school management in Ebonyi State, the current practices among secondary school principals are insufficient and contribute to the ineffective management of schools.

Effective management of secondary schools involves the strategic coordination of resources, personnel, and processes to achieve educational objectives and foster a conducive learning environment. It encompasses planning, organizing, directing, and controlling school activities to ensure that both academic and administrative goals are met efficiently. According to Adeniran (2020), effective management in secondary education is pivotal for socio-economic and political emancipation in Nigeria. Furthermore, effective school management requires leaders who can successfully carry out organizational goals by utilizing key leadership skills. These include planning (deciding how to accomplish the organization's goals), organizing (preparing necessary structures and resources), staffing (recruiting and managing personnel), directing (motivating staff to achieve goals), controlling (guiding the organization appropriately), and decision-making (underpinning all managerial actions). Sadly, it appears that effective

management in public secondary schools in Ebonyi State seem to be an issue given the struggles of principals seeming failure in effectively carrying out the budget process. This has increased the calls for the integration of Information and Communication in the school budget process.

Information and Communication Technology (ICT) refers to a diverse set of technological tools and resources used to communicate, create, disseminate, store, manage and retrieve information. Ukpoma (2019) refers to ICT as a term that covers all forms of computer communication equipment and software used to create, store, transmit, interpret, and manipulate information in its various formats. ICT in education is any hardware and software technology that contribute in the educational information processing (Nnaekwe & Ugwu, 2019). Integrating Information and Communication Technology (ICT) into the budgeting process of secondary schools in Nigeria is essential for enhancing financial management and promoting transparency. ICT tools facilitate accurate budgeting, efficient resource allocation, and improved accountability, thereby strengthening the overall administrative capacity of educational institutions (Eze & Umanah, 2021). The adoption of ICT in budgeting allows school administrators to utilize software applications for tasks such as financial planning, expenditure tracking and real-time reporting. This digital approach minimizes errors associated with manual computations and streamlines decision-making processes. Orie (2017) stated that the use of spreadsheet programmes and specialized accounting software can aid in creating detailed budget forecasts and monitoring financial performance against set benchmarks. Furthermore, gender plays a role in influencing how effectively principals utilize ICT in the budget process and manage secondary schools,



as access, training, and confidence in ICT use may differ between male and female administrators (Okorji & Nwode, 2023). Studies suggest that male principals often exhibit a stronger correlation between ICT use and effective management, possibly due to greater exposure or access to digital tools (Oluwadare & Akinola, 2015). The researcher observed that these views have not been empirically validated in public secondary schools in Ebonyi State. It is against this background that the researcher investigated principals' utilization of ICT in budget process as correlate of effective management of public secondary schools in Ebonyi State.

Statement of the Problem

Seeming poor management of public secondary schools in Ebonyi State has continued to draw concern from stakeholders in the education sector. Many schools struggle with basic administrative functions such as proper budgeting, timely procurement of materials, and effective coordination of human and financial resources. The researcher observed that these issues are often linked to the ineffective use of modern administrative tools, particularly Information and Communication Technology (ICT), in the management process. Despite the increasing global emphasis on the integration of ICT in school administration, most secondary schools in Ebonyi State still rely on outdated, manual methods of budget planning and execution. In many instances, the budgeting process lacks transparency, accuracy, and real-time tracking, leading to delays, misappropriation of funds, and underutilization of resources. The researcher further observed that school principals, who are expected to lead financial planning efforts, often do not possess adequate ICT skills or access to relevant digital tools that could enhance their effectiveness. This gap in ICT utilization appears to contribute

significantly to the broader problem of ineffective school management, as poor budgeting affects every aspect of school operations, from teaching and learning to staff welfare and infrastructure development. It is against this background that the researcher became interested in investigating how principals' utilization of ICT in the budgeting process correlates with effective management of public secondary schools in Ebonyi State.

Purpose of the Study

The main purpose of the study was to investigate principals' utilization of ICT in budget process as correlate of effective management of public secondary schools in Ebonyi State. Specifically, the study investigated:

1. The relationship between principals' utilization of ICT in budget process and effective management of public secondary schools in Ebonyi State.
2. The relationship between utilization of ICT in budget process and effective management among male and female principals in public secondary schools in Ebonyi State.

Research Questions

The following research questions guided the study:

1. What is the relationship between principals' utilization of ICT in budget process and effective management of public secondary schools in Ebonyi State?
2. What is the relationship between utilization of ICT in budget process and effective management among male and



female principals in public secondary schools in Ebonyi State?

Hypotheses

The null hypotheses were tested at 0.05 level of significance:

1. There is no significant relationship between principals' utilization of ICT in budget process and effective management of public secondary schools in Ebonyi State.
2. There is no significant relationship between utilization of ICT in budget process and effective management among male and female principals in public secondary schools in Ebonyi State

Methodology

The study adopted a descriptive survey research design and was conducted in state government-owned secondary schools in Ebonyi State. The population of the study consisted of 233 principals (98 males and 135 females) in the 233 public secondary schools in Ebonyi State. This includes 98 male principals and 135 female principals. The entire population of principals was used for the study without sampling. This is because the population of the study was manageable. Two structured instruments developed by the researcher were used to collect data. The first instrument was titled "Principals Utilization of Information and Communication Technology in the Budget Process Questionnaire (PUICTBPQ)." The instrument contained 12 items on principals' utilization of ICT in the budget process. The second instrument is titled "Effective School Management Questionnaire (ESMQ)," It contains 20 items on effective school management. The instruments were

structured on a 4-point rating scale of Strongly Agree (SA), Agree (A), Disagree (D) and Strongly Disagree (SD). The instruments underwent face validation by three education experts. Two experts from Department of Educational Management, and one expert from the Department of Mathematics and Computer Education, all from the Faculty of Education, Enugu State University of Science and Technology (ESUT).

To establish the internal reliability of the instrument, copies of questionnaire were administered to 30 respondents made up of 10 principals and 20 teachers in twenty public secondary schools in Enugu State, Udi to be precisely, who were not part of the population for the study. Enugu State was chosen because it is one of the south-eastern state that share common characteristics, such as boundary, language, culture, educational opportunities with Anambra State. Data collated from the respondents were used to establish the internal consistency using Cronbach Alpha method. Cronbach Alpha was deemed appropriate since it is applicable to items that are not dichotomously scored. Reliability coefficient of 0.89 and 0.87 were obtained for PUICTBPQ and ESMQ respectively.

Data collection was facilitated by two research assistants. Out of 233 questionnaires distributed, 197 copies were retrieved in good condition. The Pearson Product Moment Correlation Coefficient was employed to answer the research questions and to test the hypotheses. This statistical tool was considered appropriate because the study sought to determine the degree and direction of the relationship between principals' utilization of ICT in the budgeting process and the effective management of public secondary schools in Ebonyi State. The decision rule applied was as follows: If the p-value is less than or equal to 0.05 ($p \leq 0.05$), the null



hypothesis is rejected, indicating that there is a statistically significant relationship between the variables. Conversely, if the p-value is greater than 0.05 ($p > 0.05$), the null hypothesis is not rejected, indicating that there is no statistically significant relationship between the variables.

Results

Table 1: Pearson's Correlation between Principals' Utilization Of ICT In Budget Process And Effective Management Of Public Secondary Schools in Ebonyi State

Variables	N	r	Remarks
Principals' Utilization of ICT in Budget Process	197	0.79	High positive relationship
Effective Management			

The result of the Pearson's correlation (r) presented in Table 1 shows that the correlation between principals' utilization of ICT in budget process and effective management of public secondary schools in Ebonyi State was 0.79. This value indicates a high positive correlation. This suggests that as principals utilize ICT in the budget process, the school experiences effective management. Thus, there is a high positive relationship between principals' utilization of ICT in budget process and effective management of public secondary schools in Ebonyi State.

Research Question Two

What is the relationship between utilization of ICT in budget process and effective management among male and female principals in public secondary schools in Ebonyi State?

Table 2: Pearson's Correlation between Utilization of ICT in Budget Process and Effective Management among Male and Female Principals in Public Secondary Schools in Ebonyi State

Variables	N	r	Remarks
Male			
Principals' Utilization of ICT in Budget Process	71	0.85	Very High positive relationship
Effective Management			
Female			
Principals' Utilization of ICT in	126	0.76	High positive relationship



Budget Process

Effective Management

Table 2 presents the result of the Pearson's correlation between utilization of ICT in budget process and effective management among male and female principals in public secondary schools in Ebonyi State. The Pearson's correlation (r) obtained for the male sample was 0.85, which indicates a high positive relationship. For females, the r was 0.76. This value shows a high positive relationship between utilization of ICT in budget process and effective management among male and female principals in public secondary schools in Ebonyi State. When compared to the value obtained for the female principals, the relationship between the two variables was stronger among the male principals.

Hypothesis One

There is no significant relationship between principals' utilization of ICT in budget process and effective management of public secondary schools in Ebonyi State.

Table 3: Test of Significance of Principals' Utilization Of ICT in Budget Process and Effective Management of Public Secondary Schools in Ebonyi State

Variables	N	r	p-value	Remarks
Principals' Utilization of ICT in Budget Process	197	0.79	0.00	High positive relationship
Effective Management				

The results in Table 3 show that there was a significant positive relationship between principals' utilization of ICT in budget process and effective management of public secondary schools in Ebonyi State, $r = 0.79$, $p < 0.05$. Since the p-value was less than 0.05, the null hypothesis was rejected, meaning that there was a significant relationship between principals' utilization of ICT in budget process and effective management of public secondary schools in Ebonyi State.

Hypothesis Two

There is no significant relationship between utilization of ICT in budget process and effective management among male and female principals in public secondary schools in Ebonyi State



Table 4: Pearson's Correlation between Utilization of ICT in Budget Process and Effective Management among Male and Female Principals in Public Secondary Schools in Ebonyi State

Variables	N	r	p-value	Remarks
Male				
Principals' Utilization of ICT in Budget Process	71	0.85	0.00	Very High positive relationship
Effective Management				
Female				
Principals' Utilization of ICT in Budget Process	126	0.76	0.00	High positive relationship
Effective Management				

Data in Table 4, there was a significant positive relationship between utilization of ICT in budget process and effective management among male and female principals in public secondary schools in Ebonyi State, $r = 0.85$ $p < 0.05$ (for males) and it was $r = 0.76$, $p < 0.05$ (for female). Since the p-values for both groups were less than 0.05, the null hypothesis stating that there was no significant relationship between utilization of ICT in budget process and effective management among male and female principals in public secondary schools in Ebonyi State was rejected.

Discussion

The finding of the study revealed that there is a high positive relationship between principals' utilization of ICT in budget process and effective management of public secondary schools in Ebonyi State. This implies that the more principals integrate ICT tools into their budgeting activities, the more effective they are in managing school resources, planning, and administrative functions. Two possible reasons may explain this finding. First, the use of ICT enhances accuracy and speed in the preparation and monitoring of school budgets. Principals who apply digital tools such as spreadsheets, budgeting software, and financial tracking systems are better equipped to allocate resources efficiently and avoid common errors associated with manual budgeting. Second, ICT fosters

transparency and accountability. Through the use of ICT, school financial records can be easily stored, retrieved, and reviewed, reducing the chances of mismanagement and encouraging a more organized administrative process. This finding aligns with the researcher's earlier observations in this study, which noted that poor school management in Ebonyi State is partly due to the limited integration of ICT in administrative processes. The observed deficiency in ICT utilization was linked to inadequate infrastructure and lack of training for school heads. Thus, where ICT is properly adopted, improvements in financial planning and general school operations are more likely. The finding is in agreement with Eze and Umanah (2021) who reported that budgeting and fund management in secondary schools benefit



significantly from ICT tools, which support planning and real-time reporting. Similarly, Orie (2017) noted that integration of ICT into the Nigerian education system improves administrative efficiency and supports better decision-making. In the same vein, Oluwadare and Akinola (2015) highlighted that ICT is a veritable tool for achieving qualitative education, which indirectly underscores its role in effective school management. This is validated by the result of the hypotheses which revealed that there was a significant relationship between principals' utilization of ICT in budget process and effective management of public secondary schools in Ebonyi State.

Finding of the study also showed that there is a high positive relationship between utilization of ICT in budget process and effective management among male and female principals in public secondary schools in Ebonyi State. However, the relationship was observed to be stronger among male principals compared to their female counterparts. This suggests that while both male and female principals benefit from integrating ICT into budgeting, male principals appear to utilize these tools more effectively or consistently in ways that enhance school management. Two reasons may account for this observed gender difference. Firstly, the researcher observed that male principals may have greater exposure to ICT tools, either through prior training, self-initiated learning, or more frequent use of technology in other administrative tasks. This exposure could contribute to a higher level of confidence and competence in using ICT for budgeting purposes. Secondly, cultural or institutional factors in the state might influence access to ICT resources or professional development opportunities, with male principals perhaps being more likely to be assigned to better-equipped schools or provided with more leadership support that enables effective ICT

use. This finding is line with Okorji and Nwode (2023) who reported that although principals in Ebonyi State engaged in revenue and expenditure planning, there was no significant difference in the budgeting practices of male and female principals. However, the deeper analysis in this study reveals that even with similar engagement levels, male principals showed a stronger correlation between ICT use and effective management. This may suggest that it is not just the frequency of ICT use, but the depth, skill, and context of its application that leads to greater administrative effectiveness. Furthermore, this finding supports the broader view that ICT enhances school management when appropriately utilized. The works of Eze and Umanah (2021) and Orie (2017) both emphasized that ICT facilitates sound financial planning and efficient school administration. While these studies did not focus specifically on gender, the current study contributes to the literature by highlighting a gendered dimension in the effectiveness of ICT utilization, calling attention to the need for more targeted capacity-building efforts, especially for female principals to bridge any competence or access gaps. In sum, while both male and female principals benefit from ICT integration in budgeting, the stronger relationship observed among male principals underscores the need for equity in training and support to ensure that all school leaders, regardless of gender, can maximize the advantages of ICT in promoting effective school management.

Conclusion

The study concluded that there is a high positive relationship between principals' utilization of Information and Communication Technology (ICT) in the budgeting process and the effective management of public secondary schools in Ebonyi State. This indicates that when principals adopt and effectively apply ICT tools in



financial planning and resource management, it contributes significantly to improving administrative efficiency, transparency, and accountability in schools. Furthermore, the study found that while both male and female principals benefit from ICT integration, the correlation between ICT use and effective management was stronger among male principals. This suggests potential gaps in ICT competence or access that may exist between the genders, which could influence management outcomes.

Recommendations

Based on the findings of this study, the following recommendations are made:

1. The Ministry of Education and relevant authorities in Ebonyi State should organize regular training and retraining programmes for school principals, with particular attention to the use of ICT in budgeting and school administration. These programmes should be inclusive, ensuring both male and female principals acquire the necessary skills.
2. Government should ensure that all public secondary schools are equipped with modern ICT facilities, including computers, internet connectivity, and financial software, to support digital budgeting and record-keeping.
3. Since male principals were found to utilize ICT more effectively, targeted interventions should be introduced to support female principals, such as mentorship programmes, dedicated workshops, and access to ICT tools, to bridge the gap in utilization and performance.
4. Education authorities should formulate and enforce policies that mandate the use of ICT in budgeting processes in all public secondary schools, thereby institutionalizing digital practices in financial management.

REFERENCES

- Adeniran, O. S. (2020). Effective management of secondary education as a tool for socio-economic and political emancipation in Nigeria. *International Journal of Contemporary Education Research*, 19(8), 117–118. Retrieved from https://www.cambridgenigeriapub.com/wp-content/uploads/2021/01/CJCER_Vol18_No8_Sept_2020-9.pdf.
- Akintola, A.I. & Alshulumi, S.R.A (2018).The principalship twenty-first century. *International Journal of Teaching education and learning*, 292, 137-148.
- Amaikwu, J.O. & Ofojebe, W.N. (2020). Principals' budgeting practices for enhancing financial management in secondary schools in Anambra State. *National Journal of Educational Leadership (NJOEL)*, 5(1), 130-139.
- Appalachian State University (2019). *Careers: Elementary or Secondary School Administrator*. Retrieved from <https://online.appstate.edu/programmes/careers/elementary-school-administrator.php>
- Dwyer, M. (2022). *Elementary vs. secondary principal*. Retrieved from https://learn.org/articles/What_are_the_J



- [ob Duties of School Administrators.html](#)
- Eze, O., & Umanah, R. (2021). Budgeting and fund management in secondary schools in Rivers State. *Journal of Education and Society*, 11(2), 1506–1527.
- Ganti, A. (2022). Budgeting. *Investopedia*. Retrieved from <https://www.investopedia.com/terms/b/budget.asp>
- Nnaekwe, U. C., & Ugwu, P. J. (2019). *Integrating ICT in education for effective teaching and learning in Nigerian secondary schools*. Enugu: Glory Publishers.
- Ogunode, N. J., & Ajayi, R. A. (2023). An investigation on impact of secondary school administration on teachers' job and students academic performance in Federal Capital, Abuja. *Academic Journal of Digital Economics and Stability*, 14. <https://doi.org/10.51699/ajdes.v14i.415>.
- Okorji, P., & Nwode, U. R. (2023). Principals' application of budgeting practices for effective decision-making in public secondary schools in Ebonyi State. *International Journal of Advanced Academic Research*, 9(6). Retrieved from <https://www.ijaar.org/principals-application-of-budgeting-practices-for-effective-decision-making-in-public-secondary-schools-in-ebonyi-state/ij>.
- Onyeukwu, V. E. (2023). Consequences and solutions to the administrative problems facing secondary school principals in Ezza Local Government Area of Ebonyi State. *Interdisciplinary Journal of Educational Practice*, 3(2). Retrieved from <https://sadijournals.org/index.php/IJEP/article/view/913>.
- Oluwadare, C. T., & Akinola, O. B. (2015). Information communication technology: A veritable tool for qualitative education in Nigerian secondary schools. *Systemics, Cybernetics and Informatics*, 13(5), 37–44.
- Orie, M. J. (2017). Integration of ICT in Nigeria education system: Challenges and prospects. *ResearchGate*. Retrieved from https://www.researchgate.net/publication/372751693_INTEGRATION_OF_ICT_IN_NIGERIA_EDUCATION_SYSTEM_CHALLENGES_AND_PROSPECTS.
- Ukpoma, E. (2019). *Use of ICT Applications for Secondary Schools Administration*. Retrieved from <https://open.library.okstate.edu/adect/chafter/use-of-ICT-applications-for-secondary-schools-administration/>