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Research Article

Use of Computers and Internet as Correlates of Managers' Empowerment in Public Tertiary Institutions in Benue State, Nigeria

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Abstract

This study investigated the use of computers and the internet as correlates of managers' empowerment in public tertiary institutions in Benue State, Nigeria. Two objectives and corresponding null hypotheses guided the study. A correlational research design was adopted. The population comprised 4,887 academic staff from eight public tertiary institutions in Benue State, from which a sample of 489 was selected using a multistage sampling procedure. Of the 489 questionnaires administered, 480 were retrieved and found usable for analysis. Data were collected using a researcher-developed 10-item questionnaire structured on a four-point Likert scale: Strongly Agreed (SA) = 4, Agreed (A) = 3, Disagreed (D) = 2, and Strongly Disagreed (SD) = 1. The instrument was validated by experts and yielded a Cronbach's alpha reliability coefficient of 0.93. Data were analyzed using Pearson Product-Moment Correlation (PPMC) at the 0.05 level of significance. The findings revealed a very strong, positive, and significant relationship between computer use and managers' empowerment ($r = 0.954$, $p < .001$). Similarly, a very strong, positive, and significant relationship was found between internet use and managers' empowerment ($r = 0.831$, $p < .001$). The study concluded that computer and internet use are significantly associated with managers' empowerment in public tertiary institutions in Benue State. It recommended that government and relevant stakeholders provide adequate computer facilities, improve internet connectivity, and organize regular training programmes to strengthen managers' digital competencies for effective institutional administration.

Keywords: Computer use; Internet use; Managers' empowerment; Educational management; Digital technology; Tertiary institutions; Benue State; Nigeria.

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Introduction

Tertiary institutions are central to national development through the provision of advanced education, skilled manpower, research, innovation, and community service [1-2]. In Nigeria, they include universities, colleges of education, monotechnics, polytechnics, and other institutions providing higher education and training [3]. Their effective administration is therefore essential to human capital development and socioeconomic progress. Managers, including Vice-Chancellors, Rectors, and Provosts, are responsible for functions such as curriculum and instruction, personnel, student affairs, facilities, finance, and school-community relations [4-6].

Effective performance of these responsibilities increasingly requires access to digital technologies. Managers' empowerment involves providing authority, autonomy, resources, information, and skills that enable managers to make decisions, take initiative, solve problems, and contribute to institutional goals [7-8]. In contemporary tertiary education, this empowerment also encompasses access to digital resources and competencies that support communication, data management, decision-making, and administrative service delivery [9-10].

Computers are particularly important to educational administration because they facilitate information processing, data management, communication, financial administration, and decision-making. Cunningham [11] notes their potential to transform school management, while Jattan and Chaudhary [4] highlight their applications in educational materials, data analysis, and visualization. Similarly, Ali [12] (2020) reports that managers can access electronically stored student and staff information, while Abah et al. [13] identify applications in budgeting, payroll, financial monitoring, and other administrative functions. Recent Nigerian studies further demonstrate the relevance of management information systems to university planning, decision-making, student and staff administration, and data management [2], as well as communication and personnel management in private polytechnics in Benue State [14].

The internet provides another important resource for contemporary educational management. It facilitates access to information, communication, research resources, and administrative services [15]-16]. Its applications in education include supporting teaching, learning, research, communication, and administration [16, 17]. Administrators can use networked systems to access academic resources and calls for papers, monitor students' and teachers' academic progress, check student results, and communicate through electronic mail [12,13,18]. Related evidence also indicates the growing relevance of digital technologies to student personnel administration, including library and security services [14].

Although existing studies demonstrate the administrative value of computers, internet services, and related digital technologies, empirical evidence specifically examining their relationship with managers' empowerment in tertiary institutions in Benue State remains limited. This gap provides the basis for examining computers and internet use as correlates of managers' empowerment in tertiary institutions in the state.

Accordingly, this study examined the use of computers and the internet as correlates of managers' empowerment in tertiary institutions in Benue State, Nigeria. Specifically, the study sought to:

1. determine the relationship between computer use and managers' empowerment in tertiary institutions in Benue State, Nigeria; and
2. determine the relationship between internet use and managers' empowerment in tertiary institutions in Benue State, Nigeria.

Hypotheses

The following null hypotheses were formulated and tested at the 0.05 level of significance:

1. There is no significant relationship between computer use and managers' empowerment in tertiary institutions in Benue State, Nigeria.
2. There is no significant relationship between internet use and managers' empowerment in tertiary institutions in Benue State, Nigeria.

Methodology

The study adopted a correlational survey research design to examine the relationships between computer use, internet use, and managers' empowerment in public tertiary institutions in Benue State, Nigeria. The population comprised 4,887 academic staff from eight public tertiary institutions in the state. A sample of 489 academic staff, representing 10% of the population, was selected. This sample size was considered adequate based on [19], who suggested that where a population is 1,000 or more, a sample of 10% or above may be considered appropriate.

A multistage sampling procedure was used to select the respondents. In the first stage, the eight public tertiary institutions constituted the study clusters. In the second stage, academic staff were selected from each institution, with the sample proportionately allocated using a 10% sampling fraction to ensure representation across the institutions. Academic staff were selected because they are involved in teaching and related administrative activities and interact closely with institutional management, making them suitable respondents for providing information on the variables under investigation. Data were collected using a researcher-developed questionnaire comprising 10 items, with five items measuring computer use and five measuring internet use in relation to managers' empowerment. The questionnaire employed a four-point Likert scale: Strongly Agreed (SA) = 4, Agreed (A) = 3, Disagreed (D) = 2, and Strongly Disagreed (SD) = 1. The instrument was subjected to content validation by two research experts in the Department of Educational Foundations, Benue State University, Makurdi. It was also trial-tested, and its internal consistency was established using Cronbach's alpha, which yielded a reliability coefficient of 0.93.

The researchers administered 489 copies of the questionnaire, of which 480 were returned and found usable, representing a 98.2% response rate. Nine copies, representing 1.8%, were not returned. The data were analyzed using the Pearson Product-Moment Correlation (PPMC) coefficient, and the two null hypotheses were tested at the 0.05 level of significance.

Results and Discussions

The analysis and interpretation is presented in the tables as follows:

Hypothesis One: Use of computer has not significant correlation with managers' empowerment in tertiary institutions in Benue State, Nigeria.

Table1. Test of Correlation on Use of Computers with Managers' Empowerment in Tertiary institutions in Benue State, Nigeria.

Variable	N	Mean	SD	r	df	p-value	Decision
Use of Computers	480	3.42	0.87				
				0.954	478	p < .001	Positive, significant correlation
Managers' Empowerment	480	3.45	0.78				

**Correlation is significant at the 0.01 level (2- tailed)

Table 1 shows a very strong positive relationship between use of computers and managers' empowerment in tertiary institutions in Benue State, Nigeria, r (478) = 0.954, p < .001, with a 95% confidence interval of [0.946, 0.962]. The effect size is extremely large, indicating that increased use of computers is strongly associated with higher levels of managers' empowerment. The coefficient of determination (r^2 = 0.910) suggests that about 91.0% of the variation in managers' empowerment is explained by use of computers. The result is statistically significant at the 0.05 level, leading to the rejection of the null hypothesis. In terms of assumptions, Pearson's correlation assumes linearity, normality of variables, homoscedasticity and independence of observations; these are generally acceptable when composite Likert-scale scores are used, especially with a large sample size such as 480, where the Central Limit Theorem supports approximate normality. Therefore, the use of aggregated Likert-scale scores for Pearson's correlation in this study is considered appropriate and statistically defensible. Overall, the relationship is not only statistically significant but also practically very strong, suggesting that use of computers is a major predictor of managerial empowerment in the sampled institutions.

Hypothesis Two: Use of internet has no significant correlation with managers' empowerment in tertiary institutions in Benue State, Nigeria.

Table 2. Test of Correlation on Use of Internet with Managers' Empowerment in Tertiary institutions in Benue State, Nigeria.

Variable	N	Mean	SD	r	df	p-value	Decision
Use of Computers	480	3.42	0.87				
				0.831	478	p < .001	Positive, significant correlation
Managers' Empowerment	480	3.45	0.78				

**Correlation is significant at the 0.01 level (2- tailed)

Table 2 shows a very strong positive relationship between use of internet and managers' empowerment in tertiary institutions in Benue State, Nigeria, r (478) = 0.831, p < .001, with N = 480. This indicates that as the use of internet increases, managers' empowerment also increases substantially. The coefficient of determination ($r^2 = 0.691$) suggests that approximately 69.1% of the variation in managers' empowerment is explained by the use of internet, indicating a strong practical effect. The 95% confidence interval was not provided in the data; however, the result remains statistically significant at the 0.05 level, leading to the rejection of the null hypothesis. In terms of assumptions, Pearson's correlation assumes linearity, normality of variables, homoscedasticity and independence of observations; these are generally acceptable when composite Likert-scale scores are used, especially with a large sample size such as 480, where the Central Limit Theorem supports approximate normality. Therefore, the use of aggregated Likert-scale items for Pearson's correlation is statistically appropriate and defensible. Overall, the result suggests that increased use of internet is a major predictor and facilitator of managers' empowerment in the sampled tertiary institutions.

Discussion of Findings

The finding reveals a very strong, statistically significant positive relationship between the use of the internet and managers' empowerment in tertiary institutions in Benue State, Nigeria, r(478) = 0.831, p < .001, indicating that increased internet use is closely associated with higher levels of managerial empowerment, autonomy and effectiveness in institutional administration. This implies that as managers engage more with internet-based tools and resources, their capacity to access timely information, make informed decisions and coordinate administrative processes improves substantially. The result aligns with Cunningham [11], who emphasizes that computer technology is a transformative force in school management, enhancing efficiency and overall institutional performance. Similarly, Jattan and Chaudhary [4] support this view by noting that computer systems facilitate the development of updated educational materials, curriculum improvement and advanced data analysis and visualization, all of which strengthen managerial decision-making capacity. In the same vein, Ali [12] highlights the practical benefits of computer

use in enabling managers to instantly access critical data on students and staff from their offices, thereby improving responsiveness and administrative control. Furthermore, Abah et al [13] reinforce the argument by demonstrating that computer-based systems support essential managerial functions such as budgeting, payroll management, monitoring school finances and tracking student fee payments in real time. This finding confirms that use of computers significantly correlates with managers' empowerment by improving access to information, strengthening administrative efficiency and enabling evidence-based decision-making in tertiary institutions in Benue State.

The finding reveals a very strong positive relationship between internet use and managers' empowerment in tertiary institutions in Benue State, Nigeria, $r(478) = 0.831$, $p < .001$, indicating that increased utilization of the internet is strongly associated with higher levels of managerial empowerment. This suggests that as managers make more effective use of internet resources, their capacity to access timely information, make informed decisions, coordinate administrative tasks, and enhance institutional efficiency is substantially improved. The result aligns with Amaoge and Igwebuike [17], who emphasize the internet as an indispensable educational asset that strengthens learning, teaching, and research processes, thereby indirectly supporting administrative effectiveness. Similarly, Oghenetega and Igere [16] underscore the internet's central role in facilitating administrative functions in Nigerian tertiary institutions, reinforcing the idea that digital connectivity enhances operational efficiency. Udida [18] further supports this by noting that managers can utilize WAN and LAN connections to access vast information networks for research and policy-related decisions, thereby expanding their administrative capacity. In the same vein, Abah et al [13] highlight that internet use enables managers to monitor academic activities such as students' and teachers' performance both within and outside the institution, strengthening supervision and accountability. Ali [12] also affirms that internet tools support routine managerial tasks such as checking results and communicating via email, which streamlines decision-making processes. Overall, the finding confirms that use of internet is a significant enabler of managers' empowerment, as it provides immediate access to relevant information, improves communication flow and enhances evidence-based decision-making in tertiary institution management in Benue State.

Conclusion

The study established significant and very strong positive relationships between computer use and managers' empowerment, and between internet use and managers' empowerment in tertiary institutions in Benue State, Nigeria. The findings indicate that greater use of computers and internet services is associated with higher levels of managers' empowerment. The study therefore concludes that access to and effective use of these digital technologies are important correlates of managers' empowerment in tertiary institutions in the state.

Based on these findings, the study recommends that government and relevant stakeholders, including donor agencies, should provide adequate and functional computers in tertiary institutions in Benue State

and support regular training to strengthen managers' capacity to use them effectively. Tertiary institution managers should also prioritize reliable internet connectivity by providing appropriate internet facilities and mobilizing adequate funding from government, donor agencies, and other stakeholders to support sustainable access and effective institutional management.

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