International Journal of Information Resource Management (IJIRM)
Volume 3, Number 4 (October, 2026)
E- ISSN: 1118-7786

MITIGATING BRAIN DRAIN IN HIGHER EDUCATION: RETENTION STRATEGIES FOR ICT SUPPORT PERSONNEL AT KADUNA STATE UNIVERSITY

Chidinma Paschaline Obi Chidinma

Department of Library and Information Science,
Ahmadu Bello University, Zaria, Nigeria

Idris Adamu Dauda, PhD

Department of Library and Information Science, A.B.U. Zaria

and

Dr. Kelechi I. Ndubueze,

Advanced Space Technology Applications Laboratory-South West,

Obafemi Awolowo University, Ile-Ife

Abstract

Brain drain is considered a significant threat to the effective functioning of higher education institutions, especially through the loss of skilled Information and Communication Technology (ICT) support personnel. This study investigated the retention strategies for mitigating brain drain among the ICT support personnel at Kaduna State University (KASU). The study employed a case study research design. Data was collected from 75 respondents using a structured questionnaire. The results showed that the most rated retention strategy was increased salaries (39.2%) followed by career development programs (33.3%), improved working conditions (21.6%) and recognition and rewards (5.9%). The findings imply that financial incentives remain an important factor in retaining ICT personnel, but there is also a need to consider opportunities for professional growth and a conducive working environment in staff retention. The study concludes that KASU needs an integrated retention framework including competitive remuneration, structured

© 2026. IJIRM. All rights reserved (https://www.ijirm.com.ng)

career development, better working conditions and recognition of employees' contributions. To improve the retention of ICT support personnel the study recommends that periodic salary benchmarking, clear career progression pathways, investment in contemporary ICT infrastructure and professional training and development of institutional recognition and reward programs be made.

Keywords: Brain Drain, Information and Communication Technology, Kaduna State University, Japa, Retention Strategies, ICT Support Personnel

Introduction

In the last two decades, Africa has witnessed a major shift in migration patterns, leading to what many regard as “new normal” in regular and irregular migration. This occurrence is marked by large scale transnational movements and Nigeria with its teeming population is well represented among those seeking greener pastures abroad. This migration is either done legally, with the right paperwork, or illegally, through dangerous crossings like the Sahara Desert, the Maghreb region and the Mediterranean Sea. Unfortunately, many have lost their lives, molested, and endangered while making such risky journeys, hence the need for urgent policy and structural interventions to address the root causes of migration. In higher education the loss of trained personnel can impact the continuity of academic, administrative, research and technological services.

Information and Communication Technology (ICT) has emerged as a critical part of the functioning of modern institutions of higher learning. Universities are gradually becoming more reliant on ICT infrastructure and skilled personnel to support digital learning platforms, communication systems, data administration, network management,

© 2026. IJIRM. All rights reserved (https://www.ijirm.com.ng)

cybersecurity, digital research activities and other technology-driven programs. Thus, the availability and retention of competent personnel in ICT support is crucial for the effective running of a university.

ICT support personnel account for a reasonable part of the human resources needed for the effective running of higher education institutions. Their duties extend beyond the normal technical assistance which include the maintenance of networks and computer facilities, management of digital platforms, troubleshooting, data protection, software administration, and support for staff and students. Therefore, when trained ICT personnel leave an institution, the consequential loss of manpower and technical expertise may increase the workload of remaining employees and affect the quality and timeliness of ICT services.

The challenge of brain drain is particularly important in the Nigerian context due to the obvious vacuum created in the workforce, where skilled professionals constantly seek employment opportunities abroad that offer more enticing remuneration, career growth, professional development, and standardized working conditions. The use of the term *Japa* to describe the increasing interest among Nigerians to relocate in search of greener pastures has further brought attention to the implications of professional migration. For institutions of higher learning, the retention of skilled personnel has therefore become a critical priority for institutions.

Against this background, this study focuses specially on retention strategies for ICT support personnel at Kaduna State University (KASU), while seeking to identify the

© 2026. IJIRM. All rights reserved (https://www.ijirm.com.ng)

strategies that could help the university in keeping skilled ICT personnel and thereby minimize the potential effects of brain drain on ICT service delivery.

Statement of the Problem

The availability of competent ICT support personnel is key to the effective functioning of a modern university. At Kaduna State University, ICT personnel provide important services in support of teaching, learning, research, communication, data management, electronic platforms, network operations, and other administrative exigencies. The dearth of experienced ICT personnel can no doubt pose operational challenges for the university.

When trained ICT employees leave an institution, the ones left may be compelled to take up additional responsibilities, resulting in increased workload and resultant pressure. The university may also encounter difficulties replacing employees with such specialized technical skill and institutional experience. these losses can affect the continuity of services, leading to more system downtime, delaying the resolution of technical issues, and decline in the efficiency of support provided to students and staff.

The retention of ICT personnel may also be impacted by the availability of other employment opportunities. ICT professionals embody skills that are transferable across institutions and geographical locations, hence their movement within the labor market. Where employees perceive that their pay, career opportunities, professional development

© 2026. IJIRM. All rights reserved (https://www.ijirm.com.ng)

prospects, or conditions of work are inadequate, they may be motivated to seek employment elsewhere.

At KASU, the awareness around the retention of competent ICT personnel is therefore critical for maintaining stable and effective technology services. However, without putting up institutional measures to address the factors that may influence employees' decisions to stay with the university and not consider going elsewhere, the institution may continue to grapple with the loss of valuable technical expertise. Consequently, there is need to identify functional retention strategies that can encourage ICT support personnel to remain within the university and continue to contribute to its academic and administrative objectives.

Research Question

The following research question guided the study:

What retention strategies can mitigate brain drain among ICT support personnel at Kaduna State University?

Literature Review

Brain Drain

Brain drain is the migration or movement of highly educated and skilled individuals from their place of origin to another place where they perceive better economic, professional or living conditions. The problem is particularly acute when the departure of skilled personnel creates a shortage of expertise in the organizations or countries of origin.

© 2026. IJIRM. All rights reserved (https://www.ijirm.com.ng)

Brain drain can be transnational or within a country. Transnational or external brain drain occurs when skilled professionals leave their country to work or seek opportunities abroad, while internal brain drain may occur when professionals move from one sector or organization to another within the same country. Regardless of the form, the loss of skilled personnel can impact on organizational capacity when institutions are unable to replace the knowledge, experience and technical competencies of departing employees.

For higher education institutions, the consequences of brain drain can be particularly significant because universities depend heavily on specialized human resources. A shortage of academics, researchers, administrators and technical personnel could impact on service delivery, institutional development, research productivity and the adoption of new technologies.

Information and Communication Technology in Higher Education

Information and Communication Technology has transformed the way organizations create, process, store, retrieve, communicate and disseminate information. ICT is used in all aspects of higher education institutions including providing teaching and learning, research, student administration, communication, information management and institutional decision-making.

More and more, universities depend on computer networks, electronic databases, learning management systems, communication platforms, digital repositories,

© 2026. IJIRM. All rights reserved (https://www.ijirm.com.ng)

cybersecurity systems and other technological infrastructure. The successful use of these technologies depends on having competent ICT support personnel who are able to install, maintain, monitor, troubleshoot and upgrade technological systems.

The growing participation of universities in ICT has therefore made ICT personnel an important component of the human resources of the institutions. They are needed to ensure the reliability and security of digital systems and to provide immediate technical support to staff and students. Retention of competent ICT personnel is therefore important to maintain the technological capacity of higher education institutions.

ICT Support Personnel

ICT support personnel are workers who give technical services associated with an organization's information and communication technology systems. They may serve as systems administrators, network engineers, software developers, database administrators, technical support specialists, cybersecurity analysts, or in other related roles, depending on their specialties.

Their tasks may include ensuring that computer networks are maintained, while also managing databases, resolving hardware and software issues, aiding electronic platforms, making sure data security is in place, installation and update of software, and helping users with technology-related concerns. Within the academic environment, these responsibilities are essential for maintaining the technological infrastructure that supports school and administrative activities.

© 2026. IJIRM. All rights reserved (https://www.ijirm.com.ng)

Considering that ICT personnel have specialized and transferable skills, retaining them may be difficult where alternative job opportunities offer better remuneration or growth prospects. Institutions of higher learning therefore need to develop appropriate strategies that address both the economic and professional expectations of ICT workers.

Retention Strategies for ICT Personnel

Employee retention means organizational strategies aimed at encouraging competent employees to stay within an organization for an extended period. Effective retention strategies may encompass competitive remuneration, career development, training, recognition, supportive working conditions, employee benefits, and opportunities for professional growth.

Attractive remuneration is an important part of employee retention. Employees who view their salaries and benefits as inadequate compared with other alternatives may become dissatisfied and seek other employment. Periodic salary reviews and appropriate allowances can therefore lead to the retention of specialized personnel.

Career growth is another critical retention strategy. ICT is a fast growing field in which professionals need to continually acquire new knowledge and technical competencies. Providing opportunities for training, professional certification, conferences, workshops, and career progression could aid employees maintain their professional relevance, albeit demonstrating the organization's commitment to their development.

Efforts aimed at ensuring appropriate working conditions is also important. ICT personnel require reliable infrastructure, modern equipment, appropriate software,

© 2026. IJIRM. All rights reserved (https://www.ijirm.com.ng)

adequate technical resources, and a supportive work environment to perform their responsibilities effectively. Inadequate resources can create frustration and reduce employee satisfaction.

Creating platforms of recognition and rewards can further lead to employee retention. Employees are more inclined to develop positive attitudes towards an organization when their contributions are acknowledged and appreciated. This recognition may take the form of formal awards, commendations, performance incentives, or other forms of appreciation.

Organizations may also strengthen retention by providing health insurance, relevant allowances, flexible working arrangements where practicable, and supportive organizational cultures. These measures can contribute to employees' overall satisfaction and commitment.

For KASU, an effective retention strategy should therefore focus on the financial, professional, and organizational needs of ICT support personnel rather than relying on a single intervention.

Methodology

The study adopted a case study research design to examine retention strategies for ICT support personnel at Kaduna State University. The case study approach was considered appropriate because it enabled the researcher to examine the issue within the specific institutional context of KASU.

© 2026. IJIRM. All rights reserved (https://www.ijirm.com.ng)

The population of the study comprised relevant stakeholders associated with ICT support services at Kaduna State University. The respondents included ICT support personnel and other relevant stakeholders who possessed knowledge of the operation and management of ICT services within the university.

A total of 75 respondents participated in the study. Data were collected using a structured questionnaire designed to obtain respondents' views on strategies for retaining ICT support personnel. The questionnaire focused on the major interventions that could encourage competent ICT personnel to remain within the institution.

The collected data were analyzed using descriptive statistics, particularly frequency counts and percentages. The results are presented in tabular form and discussed in relation to the research question guiding the study.

Results and Discussion

Research Question

What retention strategies can mitigate brain drain among ICT support personnel at Kaduna State University?

The respondents were asked to identify the retention strategies they considered most effective in mitigating brain drain among ICT support personnel at Kaduna State University. Their responses are presented in Table 1.

Table 1

Retention Strategies for Mitigating Brain Drain Among ICT Support Personnel at KASU

© 2026. IJIRM. All rights reserved (https://www.ijirm.com.ng)

Retention Strategy	Frequency	Percentage (%)
Increased salaries	29	39.2
Career development programs	25	33.3
Improved working conditions	16	21.6
Recognition and rewards	5	5.9
Total	75	100.0

Note. Percentages are based on the responses of 75 respondents.

The findings presented in Table 1 indicate that increased salaries constituted the most highly identified retention strategy, accounting for 39.2% of the responses. This suggests that competitive remuneration is a major consideration in the retention of ICT support personnel at KASU. ICT professionals possess specialized and transferable skills and may have opportunities to obtain more attractive remuneration elsewhere. Consequently, inadequate remuneration may increase employees' willingness to seek alternative employment.

Career development programs ranked second, with 33.3% of the responses. This finding indicates that opportunities for professional growth are also important to ICT personnel. Because ICT is a rapidly evolving field, employees require continuous training and opportunities to acquire contemporary technical competencies. Career development programs, professional certifications, workshops, conferences, and clear promotion pathways can therefore strengthen employees' commitment to the institution.

© 2026. IJIRM. All rights reserved (https://www.ijirm.com.ng)

Improved working conditions accounted for 21.6% of the responses. This finding demonstrates that the availability of adequate equipment, reliable technological infrastructure, appropriate software, and a supportive work environment is relevant to staff retention. ICT personnel who lack the resources required to perform their duties effectively may experience frustration and reduced job satisfaction. Improving the work environment can therefore support both employee satisfaction and institutional efficiency.

Recognition and rewards recorded the lowest percentage, at 5.9%. Although this strategy received comparatively less support than the other strategies, its low percentage does not imply that recognition is irrelevant. Employees may value recognition and appreciation, particularly when such measures complement competitive remuneration, career development, and favorable working conditions. Recognition programs can reinforce positive work behaviors and demonstrate institutional appreciation of employees' contributions.

Overall, the findings show that effective retention of ICT support personnel requires a combination of strategies. Although increased salaries emerged as the strongest factor, career development and improved working conditions also attracted substantial support. The findings therefore suggest that KASU should adopt a comprehensive retention framework that combines competitive financial incentives with professional development, adequate work resources, and appropriate recognition mechanisms.

Recommendations

© 2026. IJIRM. All rights reserved (https://www.ijirm.com.ng)

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

1. **Periodic salary benchmarking should be undertaken.** Kaduna State University should periodically review the remuneration of ICT support personnel against prevailing labor-market conditions to ensure that salaries and relevant technical allowances remain sufficiently competitive. This may reduce the likelihood of skilled personnel leaving the university for better-paying opportunities.
2. **Clear career development pathways should be established.** The university should develop transparent career progression structures for ICT support personnel. Employees should be provided with opportunities for promotion, professional certification, specialized training, workshops, conferences, and other forms of continuous professional development.
3. **ICT infrastructure and working conditions should be improved.** The university should invest in modern ICT equipment, software, diagnostic tools, network infrastructure, cybersecurity resources, and other materials required by ICT personnel to perform their duties effectively. Adequate working resources can improve job satisfaction and reduce workplace frustration.
4. **A formal recognition and reward system should be introduced.** KASU should establish institutional mechanisms for recognizing outstanding performance among ICT support personnel. Recognition may include commendations, awards, performance incentives, and other appropriate forms of appreciation.

© 2026. IJIRM. All rights reserved (https://www.ijirm.com.ng)

5. **Relevant allowances and employee benefits should be strengthened.** The university should consider providing appropriate technical, professional, health, and other relevant allowances to ICT personnel. Such benefits can complement salaries and improve the overall attractiveness of employment at the university.
6. **Staff training and professional certification should be supported financially.** The university should provide financial support for ICT personnel to obtain relevant professional certifications and participate in specialized training programs. This would not only improve employees' competencies but also strengthen the university's technological capacity.

Conclusion

Brain drain presents a significant challenge to the retention of skilled ICT support personnel in higher education institutions. The findings of this study indicate that increased salaries, career development programs, improved working conditions, and recognition and rewards are important strategies for mitigating brain drain among ICT support personnel at Kaduna State University.

Increased salaries emerged as the most highly identified strategy, followed by career development programs and improved working conditions. Although recognition and rewards received comparatively lower support, they remain useful components of a broader employee-retention framework.

The study concludes that KASU's ability to retain competent ICT support personnel depends on adopting an integrated approach rather than relying on a single intervention.

© 2026. IJIRM. All rights reserved (https://www.ijirm.com.ng)

Competitive remuneration should be complemented by clear career progression, continuous professional development, adequate technological resources, favorable working conditions, and appropriate recognition. Such an approach can strengthen employee retention and contribute to the continuity, efficiency, and effectiveness of ICT services within the university.

References

Adewale, T., & Ogunleye, K. (2021). The role of ICT in Nigerian higher education. *Nigerian Journal of Education, 36*(4), 289–301.

Agholor, O. O. (2022). Brain drain in Nigerian universities and its implications for operational efficiency. *African Journal of Human Resource Management, 13*(2), 121–136.

Allen, D. G., Bryant, P. C., & Vardaman, J. M. (2010). Retaining talent: A meta-analytic examination of the relationship between organizational variables and retention outcomes. *Personnel Psychology, 63*(2), 435–457.

Baje, A. O. (2023). Nigerian university and the brain drain challenge. *BusinessDay Newspaper*.

Bhagwati, J., & Hamada, K. (2011). Brain drain and technological relationship between skilled and unskilled labor: Brain gain or brain loss. *Journal of Population Economics*, 1359–1368.

Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology, 3*(2), 77–101.

Bryman, A. (2015). *Social research methods* (5th ed.). Oxford University Press.

Chinedu, N. (2022). Poverty and youth migration out of Nigeria: Enthronement of modern slavery. *SAGE Open*.

Creswell, J. W. (2014). *Research design: Qualitative, quantitative, and mixed methods approaches* (4th ed.). SAGE Publications.

© 2026. IJIRM. All rights reserved (https://www.ijirm.com.ng)

Docquier, F., Özden, Ç., & Peri, G. (2014). The global labor market: Impact of skill-biased migration. *Economic Perspectives, 28*(3), 15–36.

Dodgson, M., Gann, D., & Salter, A. (2008). *The management of technological innovation: Strategy and practice*. Oxford University Press.

Griffeth, R. W., Hom, P. W., & Gaertner, S. (2000). A meta-analysis of antecedents and correlates of employee turnover: Update, moderator tests, and research implications for the next millennium. *Journal of Management, 26*(3), 463–488.

Huselid, M. A. (1995). The impact of human resource management practices on turnover, productivity, and corporate financial performance. *Academy of Management Journal, 38*(3), 635–672.

Mobley, W. H. (1977). Intermediate linkages in the relationship between job satisfaction and employee turnover. *Journal of Applied Psychology, 62*(2), 237–240.

Nelson, B. (2005). *1001 ways to reward employees*. Workman Publishing Company.

Obisi, C. (2021). Collaborative retention strategies for university ICT staff in Nigeria. *African Journal of Leadership and Development, 15*(2), 210–230.

Ogunode, N. J., & Musa, A. (2020). Higher education in Nigeria: Challenges and the ways forward. *Electronic Research Journal of Behavioural Sciences, 3*.

Sekaran, U., & Bougie, R. (2016). *Research methods for business: A skill-building approach*.

Teddlie, C., & Tashakkori, A. (2009). *Foundations of mixed methods research: Integrating quantitative and qualitative approaches in the social and behavioral sciences*.

Yin, R. K. (2018). *Case study research and applications: Design and methods* (6th ed.). SAGE Publications.

© 2026. IJIRM. All rights reserved (https://www.ijirm.com.ng)