

REVOLUTIONIZING PEDAGOGY: FOSTERING TECHNOLOGY ADOPTION AND ENGAGEMENT AMONG TEACHING STAFF IN IBADAN'S PRIVATE UNIVERSITY

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ABSTRACT

The study investigated the adoption of technology and engagement modes among teaching staff at a private university in Ibadan. The integration of technology in educational institutions has gained significant attention in recent years due to its potential to enhance teaching and learning processes. The study adopted the Social Exchange Theory (SET) to explain the factors influencing teaching staff's attitudes and behaviors towards technology. It was a cross-sectional survey conducted in Ibadan using quantitative methods and secondary data. Data was manually analyzed using Microsoft Excel and presented in graphs and tables, with secondary data used to support the findings. The study found that 65.11% of the respondents were males, with the largest percentage (34.88%) of respondents aged 56 and above. About 46.51% of respondents had obtained Ph.D. degrees, and approximately 81.39% were of Yoruba ethnicity. Additionally, 41.86% of respondents held the position of Lecturer I. In terms of technology adoption, the study revealed that 53.48% of respondents had partially adopted Learning Management Systems (LMS), while 39.53% had adopted Collaborative Tools and 44.18% had adopted Multimedia Resources. Furthermore, 32.55% had partially or fully adopted Mobile Apps for learning, while 65.11% had adopted Social Media and Online Communities. Online Assessment Tools were adopted by 44.18% of respondents, while only 16.27% had adopted Game-Based Learning. The study also found that 67.44% of respondents strongly believed that they enjoyed working in their department, with an additional 32.55% agreeing with this statement, indicating a high level of satisfaction and positive sentiment among the lecturers. Regarding organizational support, 58.13% of respondents agreed that their organization provides support, and 37.20% agreed or strongly agreed that they have the freedom to change their lecture mode according to their preferences and instructional strategies. Therefore, the study suggests that institutions, managements, lecturers, and clerical staff should intensify efforts to embrace technology as a catalyst for educational transformation in Ibadan's private university sector.

Key words: *Technology Adoption, Engagement Mode, Educational Institutions, Staff's Attitudes*

INTRODUCTION

In today's society, technology plays a crucial role, and this holds true for the education sector as well (Watt, 2023). The integration of technology in educational institutions has garnered significant attention in recent years due to its potential to robustly bolster teaching and learning processes (Eden, Chisom and Adeniyi, 2024). Many educators cite time as a major obstacle to their professional growth. Consequent upon this, they require tailored professional development opportunities which are central to the application of technological innovations and are delivered by trainers who employ principles of adult education and constructivism (Uzorka, Namara, and Olaniyan, 2023). The incorporation of new and emerging technologies in all facets of human endeavors is crucial for preparing learners for future success (King, McKim, Raven, and Pauley, 2019). The teachers expressed the highest demand for training related to teaching block chain technology, unmanned aerial vehicles, and precision agriculture sensors. Employee engagement plays a crucial role in directly impacting the quality of education and the learning environment, especially for lecturers in private universities.

Engaged employees typically demonstrate higher performance, job satisfaction, and make significant contributions to the overall success of the organization (Saks and Gruman, 2011). Employee engagement is strongly correlated with job satisfaction. Studies have consistently found a positive association between employee engagement and job satisfaction. Engaged employees perceive their work as meaningful, enjoy their tasks, and feel a sense of accomplishment in their contributions to the organization. This increased level of job satisfaction not only promotes overall well-being but also leads to higher levels of commitment and reduced turnover intentions among employees. Implementing technology, such as renewable energy and energy-efficient equipment, can enable businesses to cut costs and gain a competitive edge. Moreover, higher education institutions leveraging technology can



experience improved student engagement and increased retention rates. Lack of promotion, fringe benefits, promotion, allowances, career development, tools, autonomy and job insecurity stimulate teachers to engage in labor turnover in schools (Arisukwu and Adeniyi, 2011).

In the studies carried-out by King, McKim, Raven, Ley, Tammets, Milena, Sarmiento-Marquez, Leoste, Hallik and Poom-Valickis, (2022), it was found that genetic modification, value-added processes, and precision agriculture sensors were among the most commonly taught technologies. Lectures were identified as the primary teaching method across 15 technologies, with teachers reporting higher-than-average student engagement when teaching 11 of the 15 new and emerging technologies. This presents clear opportunities for expanding the coverage of new and emerging AFNR (Agriculture, Food, and Natural Resources) technologies in Michigan. While eLearning tools were widely utilized, their perceived effectiveness was dependent on the context (Puthiya, Anderson, Fonseca, and Hyland, 2023). Consequent upon this, eLearning holds a central position in higher education faculty and management and may influence resource allocation and the provision of continuing professional training. On the contrary, workplace technology has different influence on job skill across technological level units (Adeniyi and Omolawal, 2024). Quality education goes beyond mere access and inclusivity; it hinges on the effectiveness of teaching and learning processes. The integration of technology in education has the potential to revolutionize teaching methods, engage learners, and foster active and collaborative learning experiences.

Digital tools and multimedia resources can elevate instructional materials, rendering them more captivating and interactive. Virtual simulations, gamified learning, and augmented reality are potent tools that can deliver immersive experiences, leading to heightened understanding and knowledge retention. Furthermore, technology plays a pivotal role in cultivating critical 21st-century skills such as digital literacy, problem-solving, and creativity, which are imperative for thriving in the digital era. By embedding technology into educational curricula and teaching strategies, educators can equip learners with the skills essential to navigate the ever-evolving technological landscape and partake in the global knowledge economy (Allen, Golden and Shockley, 2015). The implementation of technology in education has the power to completely transform the delivery of instruction and learning to students. However, it also presents challenges, particularly in rural primary schools in the Amathole East District in South Africa (Mapisa and Makena, 2024). While teachers were willing to embrace ICTs in teaching and learning and demonstrated a positive attitude toward technology adoption, they lacked the necessary ICT competencies.

Numerous challenges and barriers have been identified, including inadequate ICT infrastructure, a shortage of teacher training in technology integration, and limited access to ICT tools. It is evident that there is a pressing need to expand teacher training programs, invest in infrastructure development, and develop a comprehensive ICT policy framework. Therefore, substantial investments in infrastructure development, expanded teacher training opportunities, and the formulation of a comprehensive ICT strategy framework are imperative to ensure that schools are prepared to operate virtually in the event of another pandemic related to Covid-19. The integration of technology in education is not just desirable but an absolute necessity. It promotes environmental sustainability by reducing the use of paper and physical resources through digital content and online assessments. Additionally, technology-enabled communication and collaboration platforms foster global partnerships and knowledge sharing, enabling educators and researchers to work together towards finding innovative solutions to global challenges. In Nigeria, various studies have examined the adoption of technology in educational institutions, with a focus on the challenges and opportunities specific to the country's higher education sector. For example, Adu and Olatokun (2014) found that limited access to technology infrastructure, inadequate training and support, and resistance to change were among the significant barriers to technology adoption among lecturers in Nigerian universities. Another study by Ajayi, Ekundayo and Ojokheta

(2015) emphasized the importance of organizational support, such as leadership commitment and the provision of resources, in promoting technology adoption among lecturers in Nigerian universities.

It is maintained that there is a positive correlation between employee engagement and job satisfaction, organizational commitment, and productivity, while there is a negative correlation with turnover rates. However, there is a dearth of information regarding the factors that contribute to employee engagement among lecturers in private universities in Nigeria, particularly in the context of technology adoption. This research gap is significant because private universities in Nigeria play an increasingly crucial role in the country's higher education sector and cater to a substantial portion of the student population. Understanding the employee engagement experience in this setting is vital for enhancing the quality of education and attaining institutional objectives. Technology adoption is a pivotal factor in achieving institutional sustainability goals, encompassing economic, social, and environmental sustainability. Despite its numerous benefits, the integration of technology in universities has been sluggish.

It is established in literature that employee engagement is a crucial factor in organizational success. Engaged employees tend to have lower turnover rates, increased customer satisfaction, and higher profitability. They are generally more productive, innovative, and committed to the organization. Conversely, disengaged employees tend to be less productive and have higher rates of absenteeism and turnover. Therefore, organizations must invest in strategies that foster employee engagement to improve their overall performance. It is imperative to investigate the degree to which lecturers adopt technology, especially in private universities in Nigeria. It is also imperative to understand the factors that influence technology adoption and its impacts on employee engagement to effectively harness the potential benefits of technology.

Studies demonstrate that employee engagement has a positive correlation with job satisfaction, organizational commitment, and productivity. In contrast, it has a negative correlation with turnover rates. However, there is a lack of information about the factors that contribute to the employee engagement experience among lecturers in private universities in Nigeria, especially in the context of technology adoption. This gap in the literature is significant because private universities in Nigeria are becoming increasingly important in the country's higher education sector. They account for a substantial proportion of the country's student population. Understanding the employee engagement experience in this context is crucial to improve the quality of education and achieve institutional goals. Technology adoption is a vital factor in achieving institutional sustainability goals, such as economic, social, and environmental sustainability. However, despite the benefits that it offers, the adoption of technology in universities has been slow.

Brief Literature Review

Employee engagement

Engaged employees exhibit high levels of job satisfaction, enthusiasm, and a strong sense of connection to their work and the organization, making them invaluable assets who drive business operations ((Tharika, Iddagoda, and Bulinska-Stangrecka, 2022). The implementation of high-performance work practices and rewards demonstrates a significant, positive correlation with employee engagement. Furthermore, it involves a mutual exchange between employers and employees (Bhavani, 2019). Effectively managing employee engagement is crucial for employers seeking to retain valuable employees, as it is associated with improved business outcomes and heightened performance. Employee engagement reflects an employee's level of dedication and involvement with the organization and its principles, emphasizing the importance of treating employees as individuals rather than just as members of staff. An engaged employee is one who comprehends the business



context and approaches their job with enthusiasm (Bhavani, 2019, Tharika, Iddagoda, and Bulinska-Stangrecka, 2022).

Employee engagement is crucial for treating employees as individuals, not just as workers. An engaged employee is someone who thoroughly understands the business context and is genuinely enthusiastic about their job. They actively collaborate with colleagues to enhance performance for the organization's benefit. It is imperative to foster a positive attitude towards the organization and its goals. While many companies are embracing technology, managing employees remains of paramount importance. Employees play a pivotal role in creating policies, procedures, and business strategies (Hasan, Nikmah, Nurbaya, and Wahyu, 2021). Management should be agile and involve employees in organizational processes. Effective communication and strong relationships between employers and employees lead to high engagement and a positive perception. Engaged employees are invaluable assets for an organization seeking to gain a competitive advantage. Employee engagement is a significant topic in Human Resource Development (HRD) that has garnered attention in recent years (Omar, 2016). Despite its importance in the industry, there has been a dearth of academic research on employee engagement. The concept of engagement in the workplace is subject to varying interpretations, and there is no one-size-fits-all approach ((Radhika, and Srinivas, 2021). However, progress can be made by understanding the importance of interaction and going beyond set guidelines. Employee engagement is a challenging task for companies, especially with today's dynamic workforce.

Creating a community that actively encourages employee participation is essential, considering the significance of a multigenerational and multicultural workforce. A company that genuinely recognizes the interests of each individual and motivates them to achieve their personal goals is unequivocally considered a superior place to work. Employee engagement has a significant impact on both organizational outcomes and employee well-being. Engaged employees tend to experience higher levels of psychological well-being, lower levels of stress, and improved mental health. This is because engagement fosters positive psychological experiences and favorable work conditions, such as opportunities for growth, autonomy, and social support. In addition, engaged employees report higher levels of work-life balance. This indicates a positive spillover effect where engagement positively influences employees' personal lives. Employee engagement is a vital component of organizational success, as it is linked to increased productivity, job satisfaction, and overall performance.

Technology Adoption in Higher Education

The integration of technology is essential in the higher education sector as it has the potential to transform teaching and learning methods and enhance overall educational experiences. This research is centered on the factors that influence the adoption of technology among educators in private universities in Ibadan, Nigeria. The adoption of technology in higher education can offer numerous advantages for educators, students, and institutions. Over the years, various theoretical perspectives and practical approaches have been suggested to examine the factors influencing user behaviors towards the acceptance and adoption of educational technology (Granic, 2022). In the educational context, several studies have delved into the validity of the Technology Acceptance Model (TAM) and its various extensions, as well as its amalgamation with other contributing theories and models. It has been proposed that among numerous predictors, factors such as user aspects, task and technology aspects, system accessibility, facilitating conditions, social aspects, complexity, anxiety, self-efficacy, subjective norm, and enjoyment are the most common predictive factors influencing educational technology adoption. When it comes to technologies, e-learning has been widely recognized as the most validated mode of delivery, followed by m-learning, social media services, and Learning Management Systems

The utilization of Information and Communication Technology (ICT) has been instrumental in facilitating meaningful interactions between educators and students (Yadav, Gupta, and Shama, 2021). ICT not only aids educators in creating study materials and delivering presentations, but also simplifies the process of sharing these resources with students and provides a platform for efficient assessment.

Through various online platforms, students are empowered to articulate their thoughts and exchange perspectives. Immediate data sharing, instant assignment submissions, and rapid teacher feedback enable faculty members to work more intelligently and effectively within a limited timeframe. The evolution of teaching pedagogy has led to a shift towards practical, collaborative, and leadership-focused approaches, particularly within higher education institutions. The perceived usefulness and ease of use of technology have a significantly positive impact on the attitudes and intentions of higher education students to embrace ICT tools. Given the current landscape where online tools, virtual education, and Learning Management Systems (LMS) are in high demand, the adoption of ICT by students is imperative. Educational technology plays a pivotal role in the global education system, yet its services have been overlooked in Nigeria over the years (Ogwu, Emelogu, and Okwo, 2022).

The Covid-19 pandemic has underscored the essential role of educational technology in addressing the challenges faced by the education sector on a global scale. With significant disruptions to various aspects of life, including school schedules, productivity, and graduation dates, educational institutions have turned to technology to adapt to this new reality, moving away from traditional practices. However, the Nigerian education system has encountered obstacles in implementing these changes, including a lack of necessary skills and resistance to innovation among educators. It is imperative for educators to receive continuous training to effectively embrace these changes. Furthermore, the government should adopt a systematic approach to providing and implementing ICT infrastructure to facilitate the integration of educational technology into schools. The pervasive influence of Information and Communication Technology (ICT) is reshaping our lives, with advancements such as virtual reality, artificial intelligence, drones, Internet of things, augmented reality, and 3D printing outpacing and revolutionizing current technologies (Oyetade, Harmse and Zuva, 2020).

Technology is rapidly creating new opportunities in industry and academia to promote technology literacy globally. The digital transformation in education has garnered significant attention (Almaiah, Alhumaid, Aldhuhoori, Alnazzawi, Aburayya, Alfaisal, Salloum, Lutfi, Mulhem, Alkhdour, Awad, and Shehab, 2022). The application of digital technologies in higher education to enhance learning has become a major point of interest. Traditional education methods are increasingly inadequate, and technology advancements have made it possible to address communication, information access, and collaborative ventures. The adoption of smart digital technologies in the education system has grown exponentially, opening up new possibilities to improve teaching and learning (Mhlongo, 2023). As a result, traditional education is being rapidly replaced by digital technologies, promoting ubiquitous teaching and learning. The effective integration of technology in schools relies on robust teacher education programs that empower teachers to create and adopt new teaching and learning methods for classroom use (Ley, Tammets, Sarmiento-Marquez, Hallik, and Poom-Valickis, 2022). Social learning processes play a crucial role in this, but there is a lack of understanding about their role in technology adoption and in demonstrating them in teacher education programs. Introducing technologies into the classroom is a formidable task, and despite interest and investments, technologies are often underutilized in schools on a larger scale. These limitations are particularly significant in today's reality, where distance and blended learning practices are being widely promoted in schools.

Education is fundamental to society for preserving lives and maintaining public structure (Mustapha Muhammed, Egigogo, Kutiriko and Dokoro, 2020). Instead of disregarding their thoughts, efforts, and desires in trying to keep up with the rapid changes in educational technology, teachers must significantly improve their use and adoption of technology in education. Technology adoption among lecturers has numerous benefits, the primary one being the enhancement of teaching effectiveness. By incorporating technology tools and resources in their instructional practices, lecturers can create interactive and engaging learning experiences for students. For instance, the use of multimedia presentations, online learning platforms, and educational apps can facilitate active learning, promote information retention, and cater to diverse learning styles. Additionally, technology-enabled assessments and feedback mechanisms can provide lecturers with real-time data on student progress, enabling personalized instruction and timely interventions. Research has shown that lecturers who

effectively utilize technology in their teaching demonstrate higher levels of student achievement optimal satisfaction (Davis, 1989).

Theoretical Framework

Social Exchange Theory (SET)

This research is based on Social Exchange Theory (SET) which was propounded by George Homans in 1958. The theory ultimately explains why people choose to work in an organization. According to SET, when two parties interact and seek reciprocal interdependence, they generate obligations to be fulfilled by both parties. The theoretical underpinnings of Social Exchange Theory centre on the relationships which culminate over time into trusting, loyal, and mutual commitments as long as parties follow certain rules of exchange. These rules of exchange usually involve reciprocity or repayment rules such that the actions of one party automatically result in responses or actions of the other party. The theory essentially asserts reversed causal effects: burned-out employees create more job demands over time for themselves, while engaged workers mobilize their own job resources to stay engaged. In the realm of technology adoption and teacher engagement, providing teachers with the essential tools to fulfill their supervisory roles and respecting their professional expertise can significantly boost their motivation to impart knowledge to students. This, in turn, will lead to the production of highly skilled graduates, benefiting industries and society as a whole. Ultimately, this approach can help corporations avoid the challenges associated with inadequately prepared individuals.

METHODOLOGY

The research methodology for this paper is a descriptive survey design. Lead City University was the study location which is a private university in Ibadan, the capital city of Oyo state, Nigeria. Ibadan is a vibrant and rapidly growing community in the southwestern region, surrounded by neighboring states such as Ogun, Osun, and Lagos. The university was established in 2005 with the aim of providing quality education and contributing to the development of the nation. Lead City University offers a wide range of degree programs across various fields, reflecting its commitment to fostering a multidisciplinary learning environment. The institution's comprehensive curriculum caters to students' educational needs in fields such as Sciences, Law, Social Sciences, Management, Education, and Engineering, preparing them for successful careers in their respective chosen fields and nurturing their intellectual growth. For this study, the simple random sampling technique was used to select respondents from the academic staff of the institution. This technique aimed to minimize selection bias and ensure that every member of the population had an equal opportunity of being included in the sample. In this wise, the sample size was generated using Taro Yamane's formula: $n = N / (1 + Ne^2)$, with a confidence level set at 93 percent (an alpha level of 0.07). To illustrate this, a study with a population size of 392 and a confidence level of 9 percent is used as an example. The formula $n = N / (1 + Ne^2)$ is used to calculate the sample size, which is approximately 134.

The research relied on a combination of primary and secondary sources of data in order to gather comprehensive insights. To capture the personal views and experiences of the respondents regarding various aspects related to the research topic, the researcher obtained primary data by administering copies of questionnaire to the academic staff members of the institution. Directly engaging with the academic staff provided a deeper understanding of their perspectives on the subject. Additionally, the researcher collected secondary data from a variety of sources to complement the primary data, including manuals and records from the institution related to the research topic, as well as relevant information from reputable journals and various websites available on the internet. These sources offered a wealth of published research articles, scholarly papers, case studies, and reports that contribute to the existing knowledge on the subject matter. The combination of primary and secondary data sources ensured a well-rounded and comprehensive approach to the research, aiming to provide

a thorough analysis and valuable insights into the relationship between technology adoption and employee engagement in the context of the study institution.

The method used to collect data for this study involved questionnaire that consisted of a combination of Likert-scale items and degree of adoption, structured into five main sections: Section A and Section B, each focusing on demographic characteristics of respondents and substantive issues. The questionnaire was divided into several sections. The first section aimed to gather demographic information about the respondents, including their age, gender, educational qualifications, and years of teaching experience. The second part focused on assessing engagement modes among lecturers, examining the support, freedom, and engagement which they experienced. The third part focused on the adoption of various technologies by the teaching staff. This section included questions to gauge the extent to which technologies had been adopted. To ensure comprehensive responses, Likert-scale items were included in the questionnaire. This approach aimed to capture a comprehensive range of data for a thorough exploration of the research topic. Furthermore, the researcher took measures to ensure the confidentiality and anonymity of the respondents, respecting their privacy and protecting their personal information. Ethical considerations were strictly adhered to throughout the data collection and analysis process. The data collected for the study underwent analysis using the percentage average method. This method provides a comprehensive examination of the data by calculating the frequency of responses and determining the average percentage for each variable.

DATA PRESENTATION AND DISCUSSION OF FINDINGS

In this section, the researcher analyzed the data generated from the respondents. A total of 135 copies of questionnaire were administered, and 129 were successfully retrieved. The data from the research questions underwent manual analysis and analysis using Microsoft Excel. The results were then presented using pie charts, bar charts, and tables to facilitate a wide-ranging understanding. It provides an all-inclusive analysis of the responses gathered from the distributed copies of questionnaire completed by the lecturers at Lead City University in Ibadan, Oyo State. The principal aim of the study is to investigate technology adopted and modes of engagement among the university's lecturers. The findings are presented in two sections. The first section offers a detailed demographic profile of the respondents, including information such as age, gender, educational background, teaching experience, and other relevant demographic variables. This section establishes a contextual understanding of the respondents in preparation for the subsequent analysis.

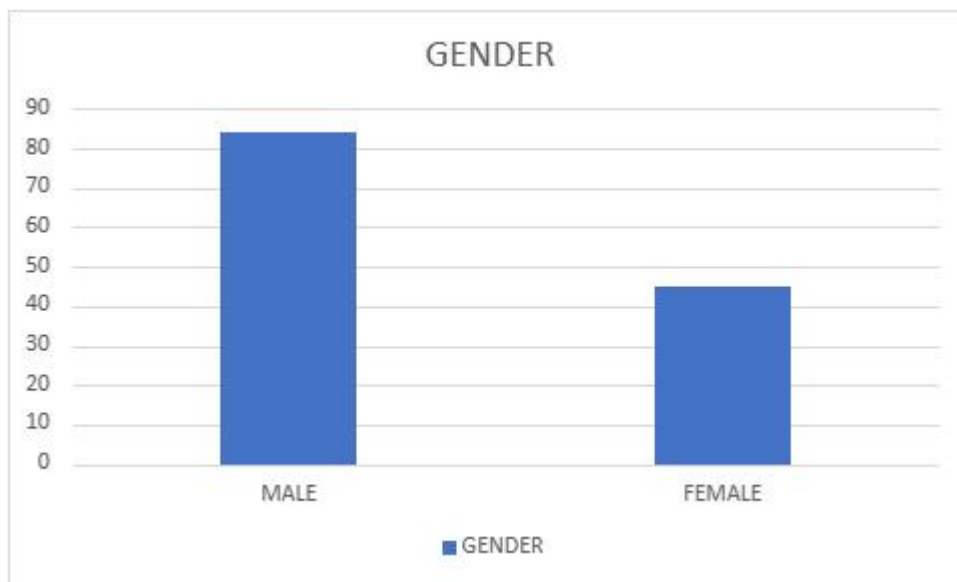
The second section delves into the data analysis in order to address the research objective formulated for this study. It explores the relationship between technology adoption and lecturer engagement at Lead City University, with a focus on how technology adoption ultimately impacts their engagement in teaching activities. The analysis covers various aspects of technology adoption, such as the use of learning management systems, online collaborative tools, and multimedia resources. Additionally, the discussion within this section aims to provide meaningful insights and address the research objective, offering clarity on the impacts of technology on lecturer engagement within the university settings. The discussion of findings likewise highlights any significant findings, challenges, or implications that have arisen from the analysis.

Presentation of Data

The results of the analysis are presented in the following sub-sections. Namely:
Demographic Characteristics of Respondents.

1.0 Demographic Characteristics of Respondents

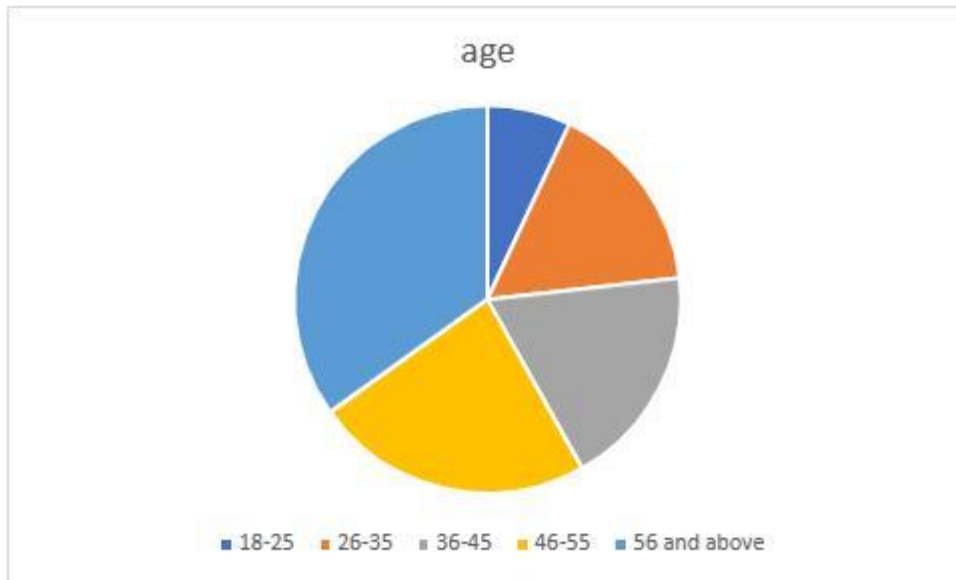
Table 1.1: Distribution of Respondents Based on Gender



Source: Field Survey (2023)

In table 1.1, the researcher presented the data regarding the gender of the respondents in the study. The findings indicate that 65.11% of the respondents were males, while 34.88% were females. This distribution implies that more males were available and willing to participate in the study. Nonetheless, it is imperative to note that this gender disparity does not have any implications on the research findings. Instead, it signifies that the perspectives and viewpoints of males are more prominently represented in this particular study. Upon reviewing the demographic information of the respondents, it was noted that 65.11% of the respondents were males, while 34.88% were females. This signifies a higher representation of male lecturers at Lead City University.

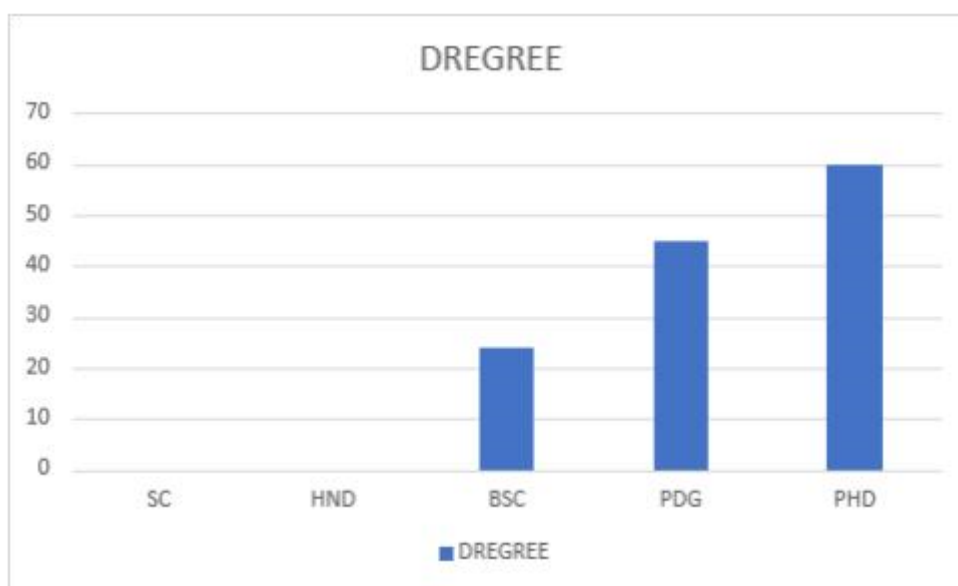
Table1.2: The Respondents' Ages



Source: Field Survey (2023)

Table 1.2 presents the age distribution of the respondents surveyed. According to the data gathered, the largest percentage of respondents, specifically 34.88%, belongs to the age group of 56 and above. The age group of 46-55 comes in second with 23.25% of the respondents. The remaining age groups, namely 36-45, 26-35, and 18-25, represent 18.6%, 16.27%, and 6.97% of the respondents, respectively. The high percentage of respondents in the age bracket of 56 and above indicates that this particular age group significantly influences this study. Their perspectives and experiences are expected to play a vital role in the research's findings and outcomes. These findings imply that a significant number of lecturers at Lead City University are advanced in age.

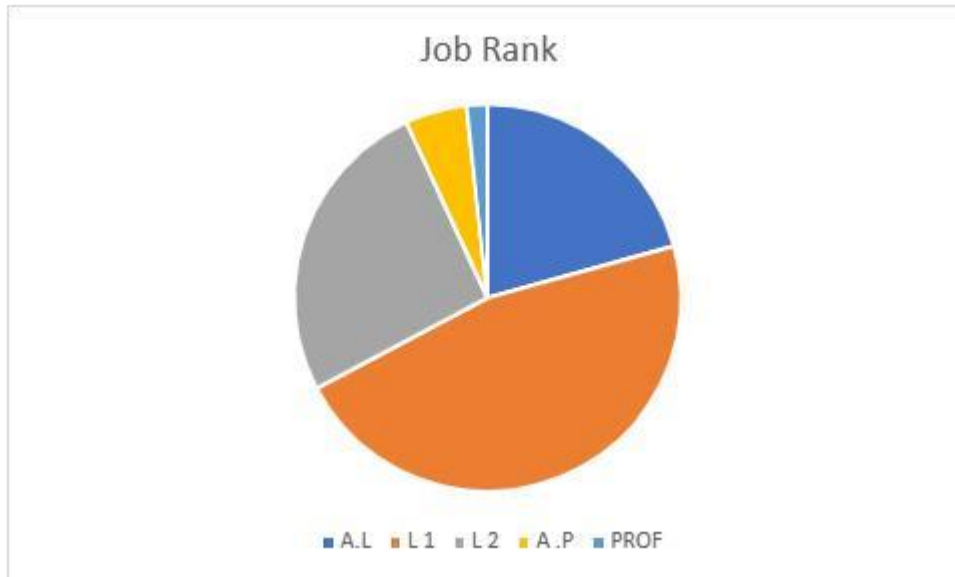
Table 1.3: Respondents' Educational Qualifications



Source: Field Survey (2023)

In table 1.3, the majority of respondents in this study possess Ph.D. degrees (46.51%), followed by those with postgraduate degrees (34.88%) and Bachelor's degrees (18.6%). This shows that the study sample consists mainly of highly educated individuals, thereby bringing specialized knowledge and expertise to the study. The presence of respondents with postgraduate qualifications fittingly highlights the significance of their educational backgrounds in contributing to the research findings.

Table 1.4: Job Ranks

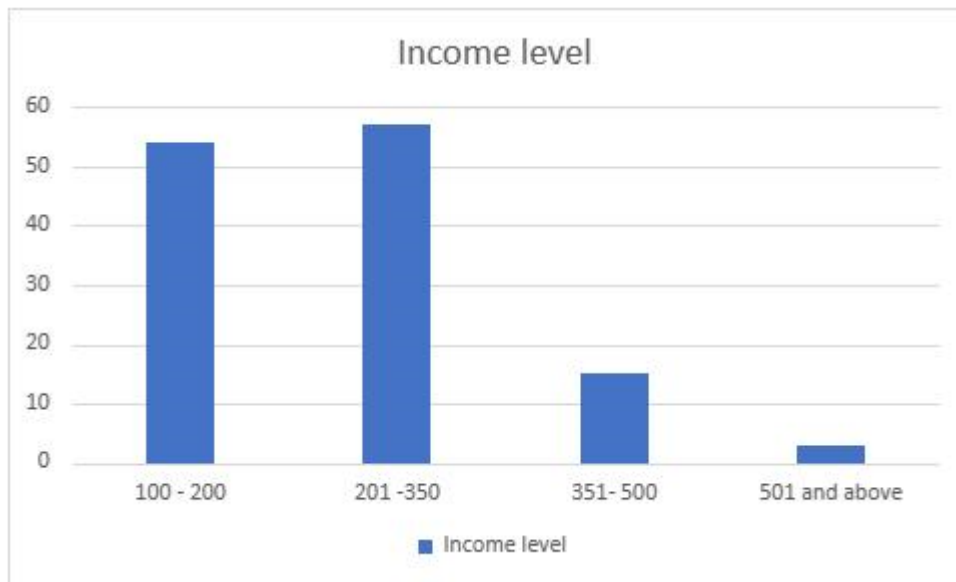


Source: Field Survey (2023)

The data depicted in table 1.4 illustrates the distribution of respondents according to their job ranks. The survey results portray that the largest group of respondents (41.86%) held the rank of Lecturer I, followed by 23.25% who were Lecturer II, 18.86% who were Assistant Lecturers, 11.62% who were Senior Lecturers, and 4.65% who were Associate Professors. None of the respondents held the rank of Professor. These findings indicate a predominant focus on individuals holding the rank of Lecturer I in the study. The majority of the respondents belong to this category, suggesting that the results and conclusions drawn from this research are particularly pertinent to this specific group.

The data obtained from this study offered valuable insights into the experiences and perceptions of Lecturer I-ranked lecturers regarding technology adoption and employee engagement. By concentrating on this specific job rank, the study aptly captured the perspectives and experiences of lecturers at a particular stage of their career progression. This focused approach enables a deeper understanding of the unique challenges, motivations, and engagement levels experienced by lecturers in this specific rank. The findings from this study can inform targeted strategies and interventions to bolster technology adoption and employee engagement among Lecturer I-ranked lecturers at Lead City University. In terms of years of experience, 30.23% of the respondents had 6-10 years of experience. These demographic findings offer valuable insights into the characteristics of the respondents and their profiles within Lead City University, in this manner providing a solid foundation for further analysis and interpretation of the research findings.

Table 1.5: Distribution of Respondents Based on Monthly Income level



Source: Field Survey (2023)

In table 1.5, the data illustrates the distribution of respondents based on their monthly income levels. The findings reveal that 44.19% of the respondents earn a monthly income ranging between 201,000NGN and 350,000NGN, while 41.86% earn between 100,000NGN and 200,000NGN per month. A smaller proportion, representing 11.63% of the respondents, earn between 351,000NGN and 500,000NGN monthly. Lastly, a minority of the respondents, comprising 2.32%, earn 501,000NGN and above on a monthly basis. These statistics shed light on the income distribution among the respondents, providing insights into the financial profile of the respondents in the study. It is evident that a significant proportion of the respondents fall within the moderate income range of 201,000NGN to 350,000NGN per month. The findings also signify a sizable number of respondents earning between 100,000NGN and 200,000NGN monthly.

Categories of technology adopted in a Private University in Ibadan

In this section, responses to generated from respondents are presented based on the data analyzed. Also, the findings from the data are discussed.

Table 1.6: Categories of technology adopted

Variable	Fully Adopted	Partially Adopted	Not Adopted	Total
I have adopted learning management systems e.g. Google Classroom, Moodle, Blackboard Learn	39 (30.23%)	69 (53.48%)	21 (16.27%)	129(100%)
I utilize collaborative tools e.g. Google meet, Microsoft teams, Google docs, Microsoft Office	51 (39.53%)	60 (46.51%)	18 (13.95%)	129(100%)
I make use of multimedia resources e.g. YouTube, Podcasts, Audiobooks, TeD-Ed	57 (44.18%)	45 (34.88%)	27 (20.93%)	129(100%)
I make use of mobile apps e.g. Duolingo, Cousera, Udemy	42 (32.55%)	42 (32.55%)	45 (34.88%)	129(100%)
I utilize social media and online communities e.g. Whatsapp, Facebook, Twitter	84 (65.11%)	42 (32.55%)	3 (2.32%)	129(100%)
I utilize online assessment tools e.g. Google forms, Examssoft	54 (41.86%)	57 (44.18%)	18 (13.95%)	129(100%)
I make use of game-based learning e.g. Classcraft, Kahoot, Minecraft: Edu edition	0 (0%)	21 (16.27%)	108 (83.73%)	129(100%)

Source: Field Survey (2023)

The data from Table 1.6 provides insights into the adoption of various technologies among the respondents. It can be observed that a significant proportion of the respondents have partially adopted Learning Management Systems (LMS), with 69 individuals accounting for 53.48% of the sample. On the other hand, 39 respondents (30.23%) have fully adopted LMS, indicating a considerable level of

adoption. However, 21 respondents (16.27%) are yet to adopt LMS. The finding is in concord with the viewpoint of Almaiah, Alhumaid, Aldhuhoori, Alnazzawi, Aburayya, Alfaisal, Salloum, Lutfi, Mulhem, Alkhedour, Awad, and Shehab (2022) who aver that the digital transformation in education has garnered significant attention. The application of digital technologies in higher education to enhance learning has become a major point of interest.

In terms of Collaborative tools, the data reveals that a majority of the respondents, 60 individuals (46.51%), have partially adopted these tools. Additionally, 51 respondents (39.53%) have fully adopted Collaborative tools, indicating a relatively high level of adoption. The finding corroborates the standpoint of Eden, Chisom and Adeniyi, (2024) who stress that involvement in education has garnered tremendous attention as a crucial factor in bolstering educational outcomes and enhancing social improvement. However, there are 18 respondents (13.95%) who have not yet adopted Collaborative Tools. The results also indicate that 57 respondents (44.18%) have fully adopted Multimedia Resources, suggesting a relatively high level of adoption in this category. Furthermore, 45 respondents (34.88%) have partially adopted Multimedia Resources, while 27 individuals (20.93%) have not adopted them. Regarding the use of Mobile Apps for learning, the data shows that 45 respondents (34.88%) are yet to adopt this medium, while 42 individuals (32.55%) have partially or fully adopted it. In terms of Social Media and Online Communities, the majority of respondents, 84 individuals (65.11%), have fully adopted this medium, indicating a high level of engagement. Additionally, 42 respondents (32.55%) have partially adopted Social Media and Online Communities, while only 3 individuals (2.32%) are yet to adopt them. The data further reveals that 57 respondents (44.18%) have partially adopted Online Assessment Tools, while 54 individuals (41.86%) have fully adopted them. However, there are 18 respondents (13.95%) who have not adopted Online Assessment Tools. In terms of Game-Based Learning, only 21 respondents (16.27%) have partially adopted this medium, while a significant majority of 108 individuals (83.71%) are yet to adopt it. None of the respondents have fully adopted Game-Based Learning.

The survey results reveal different levels of technology adoption among the respondents. In terms of Learning Management Systems (LMS), 53.48% of the sample has partially adopted LMS, while 30.23% have fully adopted it. However, 16.27% are yet to adopt LMS. For Collaborative Tools, 46.51% of the respondents have partially adopted them, while 39.53% have fully adopted them. Only 13.95% have not yet adopted Collaborative Tools. In the case of Multimedia Resources, 44.18% of the respondents have fully adopted them, 34.88% have partially adopted them, and 20.93% have not adopted them. Regarding the use of Mobile Apps for learning, 34.88% are yet to adopt it, while 32.55% have partially or fully adopted it. In terms of Social Media and Online Communities, 65.11% have fully adopted this medium, 32.55% have partially adopted it, and only 2.32% are yet to adopt it. For Online Assessment Tools, 41.86% have fully adopted them, 44.18% have partially adopted them, and 13.95% have not adopted them. In the case of Game-Based Learning, only 16.27% have partially adopted it, while the majority (83.71%) has not adopted it. None of the respondents have fully adopted Game-Based Learning.

The study's results show varying levels of technology adoption among the respondents. Some technologies, such as Learning Management Systems (LMS) and Multimedia Resources, are widely adopted, while others, like Game-Based Learning, have lower adoption rates. These findings provide insight into the current state of technology adoption and the respondents' technological landscape. The differences in technology adoption levels among the respondents can be linked to the Social Exchange Theory (SET) which was propounded by George Homans in 1958. This theory is consistent with Robinson *et al*'s (2004) description of engagement as a two-way relationship between an employer and an employee. This has implications for this study. If lecturers believe that their institution cares about their well-being and growth, they respond by attempting to discharge their obligations to the

organization by becoming more engaged. In other words, if lecturers believe that their contributions towards the organization's growth will generate an equivalent return from the institution, they tend to be more committed. If organizations support the lecturers in publishing their work in high-ranking journals, paying for the publication charges, providing avenues to access and download articles in closed-access journals, it will improve their research output and institutional visibility.

The theory principally explains why people choose to work in an organization. The theory essentially asserts reversed causal effects: burned-out employees create more job demands over time for themselves, while engaged workers mobilize their own job resources to stay engaged. In the realm of technology adoption and teacher engagement, providing teachers with the essential tools to fulfill their supervisory roles and respecting their professional expertise can significantly boost their motivation to impart knowledge to students. This, in turn, will lead to the production of highly skilled graduates, benefiting industries and society as a whole. Ultimately, this approach can help corporations avoid the challenges associated with inadequately prepared individuals.

Employee Engagement among Lecturers in Private University

Table 1.7: Employee Engagement among Lecturers in Private University

Variable	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree	Total
I am passionate about my job role in the department	87 (67.44%)	42 (32.55%)	0 (0%)	0 (0%)	0(0%)	129(100%)
I receive support and recognition from my university	36 (27.9%)	75 (58.13%)	15 (11.61%)	3 (2.32%)	0 (0%)	129(100%)
I have freedom to change my lecture mode	48 (37.20%)	48 (37.20%)	30 (23.25%)	0 (0%)	3 (2.32%)	129(100%)

Source: Field Survey (2023)

Table 1.7 presents the findings related to employee engagement and employees' experience in their organization. The majority of respondents, 87 (67.44%), strongly believe that they enjoy working in their department, while an additional 42 (32.55%) agree with this statement. This indicates a high level of satisfaction and positive sentiment among the lecturers towards their department. This finding

corroborates the view of Eden, Chisom and Adeniyi, (2024) who affirm that in the contemporary educational settings, the integration of technology has become a pivotal aspect in shaping learning experiences and fostering equitable access to education. Regarding organizational support, 75 (58.13%) respondents agree that their organization provides support to them, with an additional 36 (27.9%) strongly agreeing with this statement. However, a small number of respondents, 3 (2.32%), express disagreement, and 15 (11.62%) remain neutral on this subject. This indicates that a significant proportion of the lecturers perceive organizational support as being present, contributing to their overall job satisfaction. The table also reveals that 36 (37.20%) respondents agree or strongly agree that they have the freedom to change their lecture mode according to their preferences and instructional strategies. The finding lends credence to the perspective of Eden, Adeleye and Adeniyi, (2024) who maintain that access to quality science education is essential for equitable development and advancement in society. Conversely, a small number of respondents, 3 (2.32%), strongly disagree with this statement. Furthermore, 30 (23.25%) respondents remain neutral on this matter, indicating a varied range of opinions among the lecturers regarding the extent of flexibility they have in adapting their lecture mode.

The results indicate that a majority of respondents (67.44%) strongly believe they enjoy working within their department, while an additional 32.55% agree with this sentiment. This suggests a high level of satisfaction and positive sentiment among the lecturers towards their department. Regarding organizational support, 58.13% of respondents agree that their organization provides support, with an additional 27.9% strongly agreeing. However, a small number of respondents (2.32%) express disagreement, and 11.62% remain neutral. These findings indicate that a significant proportion of the lecturers perceive organizational support as present, contributing to their overall job satisfaction. The analysis shows that 37.20% of respondents agree or strongly agree that they have the freedom to change their lecture mode according to their preferences and instructional strategies. Conversely, a small number of respondents (2.32%) strongly disagree, and 23.25% remain neutral. This indicates a range of opinions among the lecturers regarding the extent of flexibility they have in adapting their lecture mode. In summary, the findings reveal positive perceptions among the respondents regarding their working environment, organizational support, and the flexibility they have in choosing their lecture mode. These results suggest that a significant portion of the lecturers feel satisfied and empowered in their roles, which may contribute to higher levels of engagement and job performance within the organization. The result lends credence to the submission of Eden, Chisom and Adeniyi, (2024) who avow that in recent years, the proliferation of online learning platforms has robustly transformed the landscape of education, in the same token offering unprecedented opportunities for access and flexibility.

Conclusion

The study posits that there is a positive relationship between technology adoption and employee engagement. Numerous technologies, such as Learning Management Systems, multimedia resources, and collaborative tools, were found to positively influence employee engagement by aligning with learning objectives, thereby reducing workload, enhancing the students' learning experiences, and contributing to job satisfaction. The findings pertinently support the idea that technology adoption plays a crucial role in bolstering the engagement levels of lecturers in the studied institution. The study also highlighted varying levels of technology adoption among the respondents, emphasizing the importance of considering the specific technologies being adopted and their potential impacts on employee engagement. On the whole, the findings emphasize the importance of integrating technology effectively to enhance job satisfaction, employee retention, and overall organizational performance.

In the light of the study, it can be recommended that the management should provide comprehensive and on-job training programs for lecturers to ensure they have the necessary skills and knowledge to effectively adopt and utilize technology in their teaching. These training programs should cover both

technical aspects of using specific technologies and pedagogical approaches for integrating technology into the curriculum. Additionally, the management should encourage lecturers to collaborate and share their experiences, best practices, and innovative ideas related to technology adoption. This can be robustly facilitated through regular departmental meetings, workshops, and online platforms where lecturers can discuss challenges, cross-fertilize ideas, and learn from one another's successes.

To further stimulate and encourage engagement, the management should recognize and reward technology adoption. Implementing recognition and reward systems that acknowledge and appreciate lecturers who actively adopt and effectively utilize technology in their teaching can include incentives such as financial rewards, professional development opportunities, or public recognition. Regular assessment and evaluation of the impacts of technology adoption on employee engagement and student outcomes is likewise essential. Collecting feedbacks from lecturers and students to identify areas for improvement and making necessary adjustments in technology implementation strategies will immensely help in refining the technology initiatives and ensuring their effectiveness in bolstering employee engagement and student learning experiences.

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